AUGUST, 1921
Canceling previous issues
Subject to change without notice

# Manual of Carpentry

*and Catalogue of*

# American NAILS, WIRE BARBED WIRE STAPLES

## Contents:



# American Steel & Wire Company

# American Wire Nails

WIRE NAILS are used everywhere the world over and are as staple in the stock of the hardware merchant as sugar is in the grocer's bins. They are cheap in price, the cost of the nails on any piece of work, large or small, being usually the lowest cost item in the job; yet there is real economy in getting good nails, and the right kind and size. Nails of poor quality very often spoil a good job, and the damage done makes them high at any price. Sometimes customers buy nails too large in size and have trouble on account of splitting the wood; others, for the sake of economy, order nails too thin and have trouble in not being able to drive them. We make a wide range of sizes and styles suited to all requirements, and can and do make many sizes and kinds not illustrated in our catalogue.

Our capacity and equipment for the manufacture of wire nails has no equal anywhere in the whole world. Through our many years' experience our processes have been perfected so that our wire nails are considered the standard.

Careful consideration is given in the selection of the proper grades of stock to suit the uses of the various kinds of nails. Great care is used to secure heads of proper size, and the right kind of points and above all a uniformity of length and gauge for each kind and size.

Our inspection is most rigid. Nothing is left undone to insure packing the proper size — no trouble about mixed sizes and kinds in the package.

Nails are thoroughly cleaned and polished before packing. All packages are plainly marked to show the contents, and we absolutely guarantee full weight. Look for the American Steel & Wire Company's name on the package if you want nails of right quality.


*Made by American Steel & Wire Company*

## Have Been Tried by Many Standards

The substantial reputation of these coated nails is gained from many years of faithful service. The holding ability of the coating compound has been measured and tried by experience and proven adequate for any service where necessary to employ nails of extraordinary holding tenacity.

We issue a separate catalogue for these coated nails, in which much detail is shown. Furnished free upon request.

# Standard Nail Card

Adopted August, 1920

## Extras on Standard Wire Nails in Kegs

### Common Wire Nails

| | |
|---|---|
| 2d | $1.45 |
| 3d | 1.15 |
| 4d | .80 |
| 5d | .75 |
| 6d | .60 |
| 7d | .55 |
| 8d | .30 |
| 9d | .30 |
| 10d | .20 |
| 12d | .15 |
| 16d | .10 |
| 20d-60d | Base |

### Casing Nails

| | |
|---|---|
| 2d | $1.70 |
| 3d | 1.35 |
| 4d | 1.10 |
| 5d | 1.05 |
| 6d | .75 |
| 7d | .70 |
| 8d | .50 |
| 9d | .50 |
| 10d | .35 |
| 12d | .30 |
| 16d | .20 |
| 20d-40d | .10 |

### Finishing Nails

| | |
|---|---|
| 2d | $2.00 |
| 3d | 1.55 |
| 4d | 1.25 |
| 5d | 1.20 |
| 6d | 1.00 |
| 7d | .70 |
| 8d | .60 |
| 9d | .60 |
| 10d | .45 |
| 12d | .40 |
| 16d | .25 |
| 20d | .15 |

### Flooring Brads

| | |
|---|---|
| 6d | $0.55 |
| 7d | .50 |
| 8d | .35 |
| 9d | .35 |
| 10d | .25 |
| 12d | .20 |
| 16d | .15 |
| 20d | .05 |

### Common Brads

| | |
|---|---|
| 2d | $1.50 |
| 3d | 1.20 |
| 4d | .85 |
| 5d | .80 |
| 6d | .65 |
| 7d | .60 |
| 8d | .35 |
| 9d | .35 |
| 10d | .25 |
| 12d | .20 |
| 16d | .15 |
| 20d-60d | .05 |

### Shingle Nails

| | |
|---|---|
| 3d | $0.90 |
| 3½d | .75 |
| 4d | .70 |

### Smooth Box Nails

| | |
|---|---|
| 2d | $1.65 |
| 3d | 1.30 |
| 4d | 1.05 |
| 5d | 1.00 |
| 6d | .70 |
| 7d | .65 |
| 8d | .45 |
| 9d | .45 |
| 10d | .30 |
| 12d | .25 |
| 16d | .15 |
| 20d-40d | .05 |

### Siding Nails

Same advance as Smooth Box Nails

### Slating Nails

| | |
|---|---|
| 2d | $1.20 |
| 3d | .95 |
| 4d | .85 |
| 5d | .75 |
| 6d | .65 |

### Barbed Roofing Nails

Regular Head

| | |
|---|---|
| ¾-inch | $1.55 |
| ⅞-inch | 1.30 |
| 1 -inch | 1.20 |
| 1⅛-inch | 1.10 |
| 1¼-inch | .95 |
| 1⅜-inch | .90 |
| 1½-inch | .80 |
| 1¾-inch | .75 |
| 2 -inch | .65 |

### Fence Nails

| | |
|---|---|
| 5d | $0.50 |
| 6d | .45 |
| 7d | .35 |
| 8d | .25 |
| 9d | .25 |
| 10d | .20 |
| 12d | .10 |
| 16d | .05 |
| 20d | Base |

### Hinge Nails

| | Bright Light | Bright Heavy |
|---|---|---|
| 4d | $1.00 | $0.95 |
| 6d | .90 | .85 |
| 8d | .75 | .70 |
| 10d | .65 | .65 |
| 12d | .60 | .60 |
| 16d | .55 | .55 |
| 20d | .50 | .50 |

| | Annealed Light | Annealed Heavy |
|---|---|---|
| 4d | $1.25 | $1.20 |
| 6d | 1.15 | 1.10 |
| 8d | 1.00 | .95 |
| 10d | .90 | .90 |
| 12d | .85 | .85 |
| 16d | .80 | .80 |
| 20d | .75 | .75 |

### Boat Nails

25 cents per 100 lbs. over Hinge Nails

### Fine Nails

| | |
|---|---|
| 2d | $1.95 |
| 3d | 1.35 |
| 4d | 1.05 |
| 2d, extra fine | 1.95 |
| 3d, extra fine | 1.55 |

### Clinch Nails

Bright

| | |
|---|---|
| 2d | $1.55 |
| 3d | 1.15 |
| 4d | .95 |
| 5d | .90 |
| 6d | .75 |
| 7d | .70 |
| 8d | .55 |
| 9d | .55 |
| 10d | .45 |
| 12d | .40 |
| 16d | .35 |
| 20d | .30 |

### Barbed Car Nails

| | Bright Light | Bright Heavy |
|---|---|---|
| 4d | $0.95 | $0.80 |
| 5d | .75 | .70 |
| 6d | .70 | .65 |
| 7d | .60 | .60 |
| 8d | .50 | .50 |
| 9d | .50 | .50 |
| 10d | .45 | .45 |
| 12d | .40 | .35 |
| 16d | .35 | .30 |
| 20d-60d | .25 | .25 |

| | Annealed Light | Annealed Heavy |
|---|---|---|
| 4d | $1.20 | $1.05 |
| 5d | 1.00 | .95 |
| 6d | .95 | .90 |
| 7d | .85 | .85 |
| 8d | .75 | .75 |
| 9d | .75 | .75 |
| 10d | .70 | .70 |
| 12d | .65 | .60 |
| 16d | .60 | .55 |
| 20d-60d | .50 | .50 |

### Clout Nails

| | Bright | Annealed |
|---|---|---|
| ¾-in. | $2.15 | $2.40 |
| ⅞-in. | 1.90 | 2.15 |
| 1 -in. | 1.65 | 1.90 |
| 1⅛-in. | 1.50 | 1.75 |
| 1¼-in. | 1.20 | 1.45 |
| 1⅜-in. | 1.10 | 1.35 |
| 1½-in. | .85 | 1.10 |

### Sterilized Blued Lath Nails

| | |
|---|---|
| 2d | $2.20 |
| 2d Light | 2.20 |
| 3d | 1.60 |
| 3d Light | 1.80 |

### Barrel Nails

| | |
|---|---|
| ⅝-inch | $2.25 |
| ¾-inch | 1.90 |
| ⅞-inch | 1.55 |
| 1 -inch | 1.45 |
| 1⅛-inch | 1.35 |
| 1¼-inch | 1.15 |
| 1⅜-inch | .85 |
| 1½-inch | .80 |

### Barbed Dowel Pins

No. 8 Gauge

| | |
|---|---|
| ⅝-inch | $1.75 |
| ¾-inch | 1.50 |
| ⅞-inch | 1.35 |
| 1 -inch | 1.25 |
| 1⅛-inch | 1.15 |
| 1¼-inch | 1.10 |
| 1⅜-inch | 1.05 |
| 1½-inch | 1.00 |

### Berry Box Nails

Smooth

| | No. 16 | No. 17 |
|---|---|---|
| ¾-in. | $1.90 | $2.20 |
| ⅞-in. | 1.75 | 2.05 |
| 1 -in. | 1.65 | 1.95 |
| 1⅛-in. | 1.55 | 1.85 |
| 1¼-in. | 1.50 | 1.80 |

Barbed

| | No. 16 | No. 17 |
|---|---|---|
| ¾-in. | $2.15 | $2.45 |
| ⅞-in. | 2.00 | 2.30 |
| 1 -in. | 1.90 | 2.20 |
| 1⅛-in. | 1.80 | 2.10 |
| 1¼-in. | 1.75 | 2.05 |

### Spikes

All sizes to 9-inch..... $0.10

10-inch and larger..... .25

Special gauges 10c additional.

## Special Extras on Standard Wire Nails

Annealed Nails, 25c per 100 lbs. extra.
Blued Nails, 25c per 100 lbs. extra.
Barbing Nails, 25 cents per 100 lbs. extra (except as provided for above).
Special Heads, 15c per 100 lbs. extra.
Special Points, 15c per 100 lbs. extra.
Galvanizing All Standard Nails, at special prices.

# List Prices of Miscellaneous Wire Nails

Subject to change without notice.

Per Pound for 1, 5 or 10-Pound Package.

**In ordering, state whether flat heads or brad heads are wanted.**

| No. | |
|---|---|
| **$\frac{3}{16}$-Inch** | |
| 20 | $1.80 |
| 21 | 2.00 |
| 22 | 2.20 |
| 23 | 2.40 |
| 24 | 2.55 |
| **¼-Inch** | |
| 19 | $1.00 |
| 20 | 1.25 |
| 21 | 1.55 |
| 22 | 1.90 |
| 23 | 2.15 |
| 24 | 2.35 |
| 25 | 2.55 |
| 26 | 3.10 |
| **⅜-Inch** | |
| 18 | $0.80 |
| 19 | .90 |
| 20 | 1.00 |
| 21 | 1.25 |
| 22 | 1.55 |
| 23 | 1.95 |
| 24 | 2.15 |
| 25 | 2.40 |
| 26 | 2.80 |
| **½-Inch** | |
| 14 | $0.55 |
| 15 | .55 |
| 16 | .55 |
| 17 | .60 |
| 18 | .65 |
| 19 | .75 |

| No. | |
|---|---|
| **½-Inch Continued** | |
| 20 | .85 |
| 21 | 1.00 |
| 22 | 1.25 |
| 23 | 1.65 |
| 24 | 1.90 |
| **⅝-Inch** | |
| 12 | $0.43 |
| 13 | .43 |
| 14 | .43 |
| 15 | .45 |
| 16 | .50 |
| 17 | .52 |
| 18 | .58 |
| 19 | .65 |
| 20 | .75 |
| 21 | .85 |
| 22 | 1.10 |
| 23 | 1.45 |
| 24 | 1.65 |
| **¾-Inch** | |
| 10 | $0.36 |
| 11 | .36 |
| 12 | .36 |
| 13 | .38 |
| 14 | .38 |
| 15 | .42 |
| 16 | .43 |
| 17 | .46 |
| 18 | .52 |
| 19 | .60 |
| 20 | .70 |
| 21 | .85 |

| No. | |
|---|---|
| **⅞-Inch** | |
| 8 | $0.33 |
| 9 | .33 |
| 10 | .33 |
| 11 | .33 |
| 12 | .33 |
| 13 | .34 |
| 14 | .35 |
| 15 | .36 |
| 16 | .39 |
| 17 | .43 |
| 18 | .45 |
| 19 | .56 |
| 20 | .67 |
| **1-Inch** | |
| 7 to 12 | $0.30 |
| 13 | .31 |
| 14 | .32 |
| 15 | .33 |
| 16 | .36 |
| 17 | .40 |
| 18 | .43 |
| 19 | .53 |
| 20 | .64 |
| **1⅛-Inch** | |
| 7 to 12 | $0.30 |
| 13 | .31 |
| 14 | .32 |
| 15 | .32 |
| 16 | .35 |
| 17 | .40 |
| 18 | .43 |
| 19 | .53 |

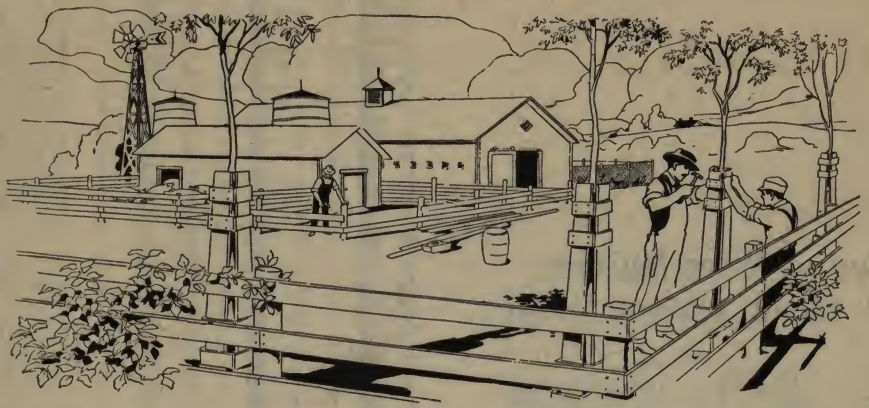
| No. | |
|---|---|
| **1¼ and 1⅜-Inch** | |
| 6 to 12 | $0.29 |
| 13 | .30 |
| 14 | .31 |
| 15 | .32 |
| 16 | .34 |
| 17 | .39 |
| **1½ and 1⅝-Inch** | |
| 4 to 13 | $0.29 |
| 14 | .30 |
| 15 | .31 |
| 16 | .33 |
| 17 | .38 |
| **1¾-Inch** | |
| 4 to 13 | $0.28 |
| 14 | .29 |
| 15 | .30 |
| 16 | .32 |
| 17 | .38 |
| **2-Inch** | |
| 3 to 10 | $0.27 |
| 11 | .28 |
| 12 | .28 |
| 13 | .28 |
| 14 | .29 |

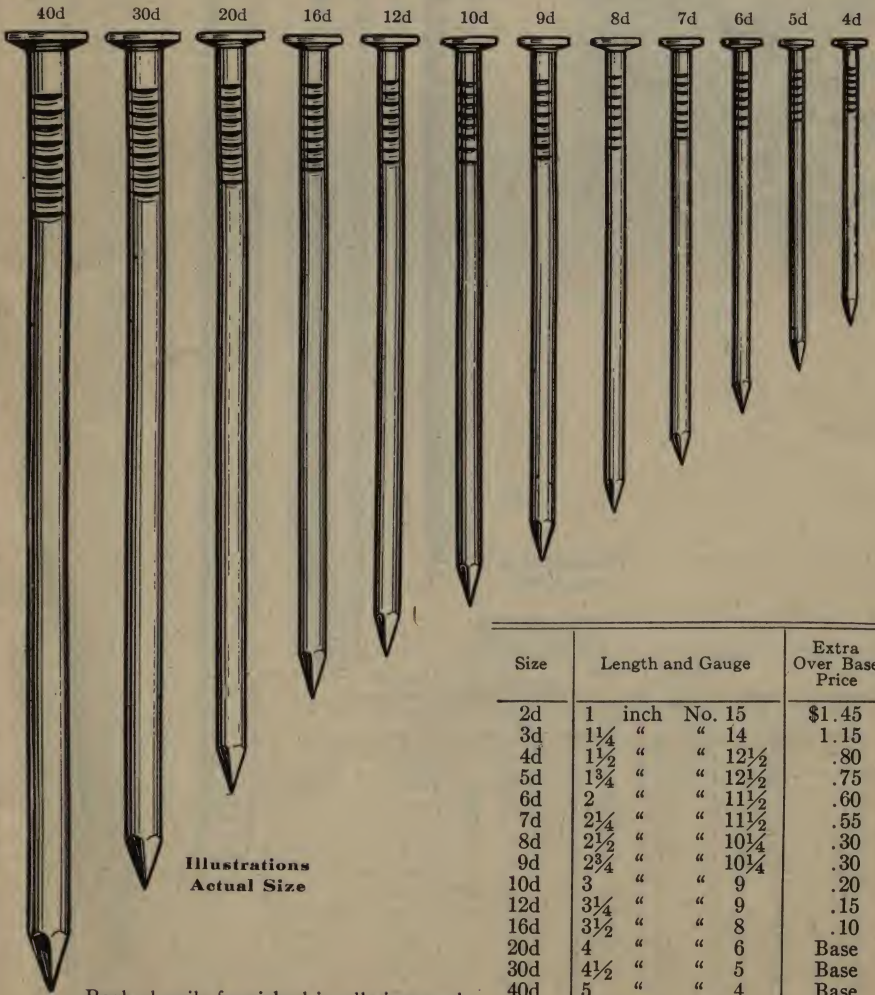
| No. | |
|---|---|
| **2¼-Inch** | |
| 3 to 10 | $0.27 |
| 11 | .28 |
| 12 | .28 |
| 13 | .28 |
| 14 | .29 |
| **2½-Inch** | |
| 3 to 10 | $0.26 |
| 11 | .27 |
| 12 | .27 |
| 13 | .28 |
| **2¾-Inch** | |
| 3 to 10 | $0.26 |
| 11 | .27 |
| 12 | .27 |
| **3-Inch** | |
| 3 to 10 | $0.25 |
| 11 | .26 |
| 12 | .27 |
| **3¼-Inch** | |
| 3 to 10 | $0.25 |
| 11 | .26 |
| 12 | .27 |
| **3½-Inch** | |
| 3 to 10 | $0.25 |
| 11 | .26 |
| **4-Inch** | |
| 3 to 10 | $0.25 |
| 11 | .26 |

## List of Extras and Deductions from List Prices on Miscellaneous Nails. Subject to Discount.

Add to list 10 cents per pound for cement coating.
Add to list 6 cents per pound for ½-pound paper boxes.
Add to list 12 cents per pound for ¼-pound paper boxes.
Add to list 3 cents per pound for barbing.
Add to list 3 cents per pound for annealing.
Add to list 3 cents per pound for bluing.
Add to list 3 cents per pound for Special Heads or Headless.
Add to list 3 cents per pound for Needle Points or any Special Points.
Deduction for 25 and 50-pound boxes, 2 cents per pound.
Deduction for 100-pound kegs, 4 cents per pound.
For lengths not listed, use list price for same gauge in nearest shorter length.
For nails, finer than full gauge, apply list price of same length in next finer gauge. For example, for No. 18½ gauge use No. 19, etc.
Nails heavier than listed, at special net prices, according to quantity.
Galvanizing, tinning, brass plating, coppering nails, at special prices.

# Common Nails






**Illustrations Actual Size**

Barbed nails furnished in all sizes and styles at 25c per 100 lbs. over smooth.

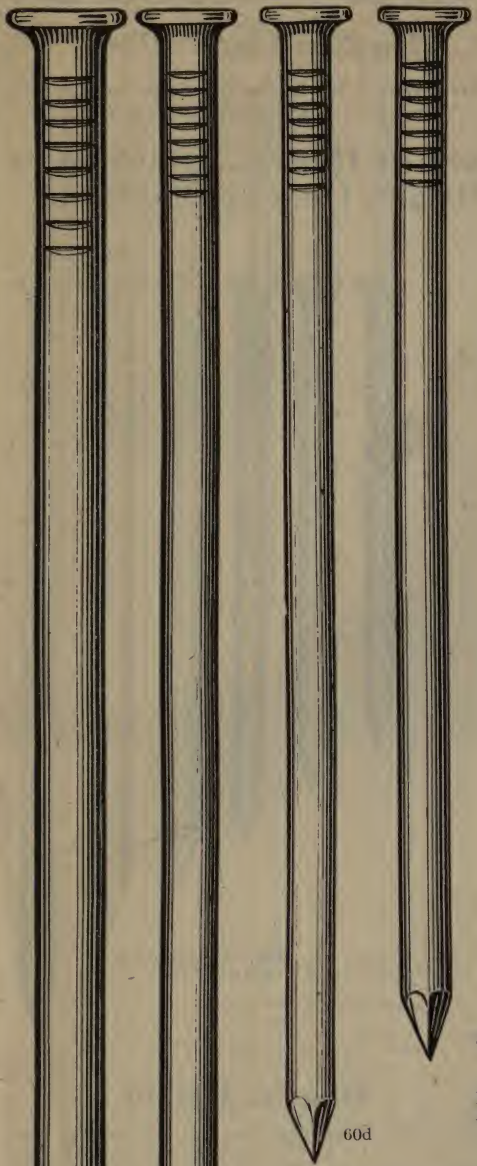
| Size | Length and Gauge | Extra Over Base Price | Approx. No. to Lb. |
|---|---|---|---|
| 2d | 1 inch No. 15 | $1.45 | 876 |
| 3d | 1¼ " " 14 | 1.15 | 568 |
| 4d | 1½ " " 12½ | .80 | 316 |
| 5d | 1¾ " " 12½ | .75 | 271 |
| 6d | 2 " " 11½ | .60 | 181 |
| 7d | 2¼ " " 11½ | .55 | 161 |
| 8d | 2½ " " 10¼ | .30 | 106 |
| 9d | 2¾ " " 10¼ | .30 | 96 |
| 10d | 3 " " 9 | .20 | 69 |
| 12d | 3¼ " " 9 | .15 | 63 |
| 16d | 3½ " " 8 | .10 | 49 |
| 20d | 4 " " 6 | Base | 31 |
| 30d | 4½ " " 5 | Base | 24 |
| 40d | 5 " " 4 | Base | 18 |
| 50d | 5½ " " 3 | Base | 14 |
| 60d | 6 " " 2 | Base | 11 |

# Round Wire Spikes
## Oval Head, Chisel Point


**Illustrations Actual Size**

| Size | Length and Gauge | Extra Over Base Pound | Degree of Countersunk | Head Rad. | Dia. Head | Approx. No. to Pound |
|---|---|---|---|---|---|---|
| 10d..... | 3 inch No. 6 | $0.10 | 123 | 7/16 | 13/32 | 41 |
| 12d..... | 3¼ " " 6 | .10 | | | | 38 |
| 16d..... | 3½ " " 5 | .10 | 123 | 7/16 | 7/16 | 30 |
| 20d..... | 4 " " 4 | .10 | 123 | 7/16 | 15/32 | 23 |
| 30d..... | 4½ " " 3 | .10 | 123 | 7/16 | ½ | 17 |
| 40d..... | 5 " " 2 | .10 | 123 | 7/16 | 17/32 | 13 |
| 50d..... | 5½ " " 1 | .10 | | | | 10 |
| 60d..... | 6 " " 1 | .10 | 123 | 7/16 | 9/16 | 9 |
| 7 inch . | 7 " 5/16 inch | .10 | 123 | 5/8 | 5/8 | 7 |
| 8 " . | 8 " 3/8 " | .10 | 123 | ¾ | ¾ | 4 |
| 9 " . | 9 " 3/8 " | .10 | | | | 3½ |
| 10 " . | 10 " 3/8 " | .25 | | | | 3 |
| 12 " . | 12 " 3/8 " | .25 | | | | 2½ |

Special Gauges, 10c additional.

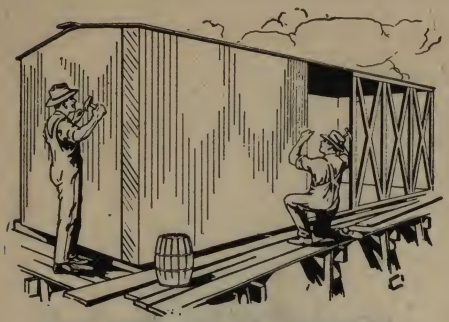


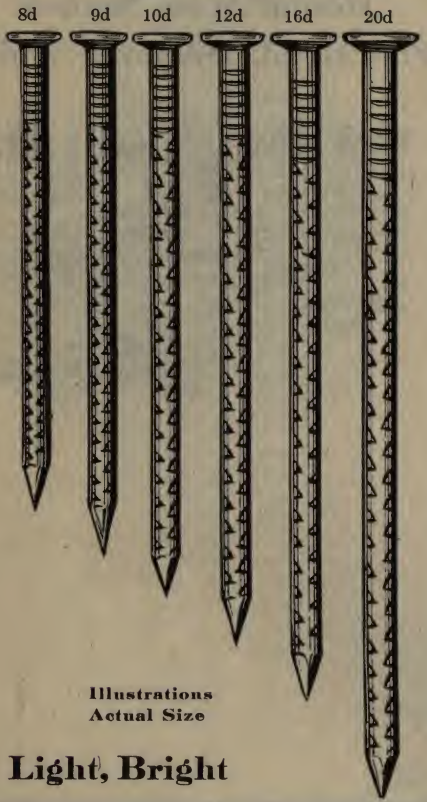

**Illustrations Actual Size**

# Round Wire Spikes
# Flat Head, Diamond Point

| Size | Length and Gauge | Extra Over Base Price | Deg. of Countersunk | Diam. Head | Approximate No. to Pound |
|---|---|---|---|---|---|
| 10d | 3 inch No. 6 | $0.10 | 123 | 13/32 | 41 |
| 12d | 3¼ " " 6 | .10 | | | 38 |
| 16d | 3½ " " 5 | .10 | 123 | 7/16 | 30 |
| 20d | 4 " " 4 | .10 | 123 | 15/32 | 23 |
| 30d | 4½ " " 3 | .10 | 123 | 1/2 | 17 |
| 40d | 5 " " 2 | .10 | 123 | 17/32 | 13 |
| 50d | 5½ " " 1 | .10 | | | 10 |
| 60d | 6 " " 1 | .10 | 123 | 9/16 | 9 |
| 7 inch | 7 " 5/16 inch | .10 | 123 | 5/8 | 7 |
| 8 " | 8 " 3/8 " | .10 | 123 | 3/4 | 4 |
| 9 " | 9 " 3/8 " | .10 | | | 3½ |
| 10 " | 10 " 3/8 " | .25 | | | 3 |
| 12 " | 12 " 3/8 " | .25 | | | 2½ |

Special gauges, 10c additional.



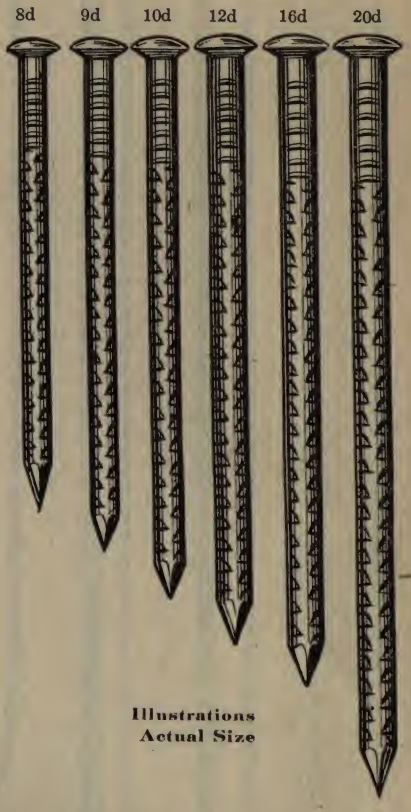



Illustrations Actual Size

## Barbed Car Nails

**In Ordering Car Nails be Sure to Specify Whether**

## Light or Heavy, Annealed or Bright, Oval or Flat Head




Illustrations Actual Size

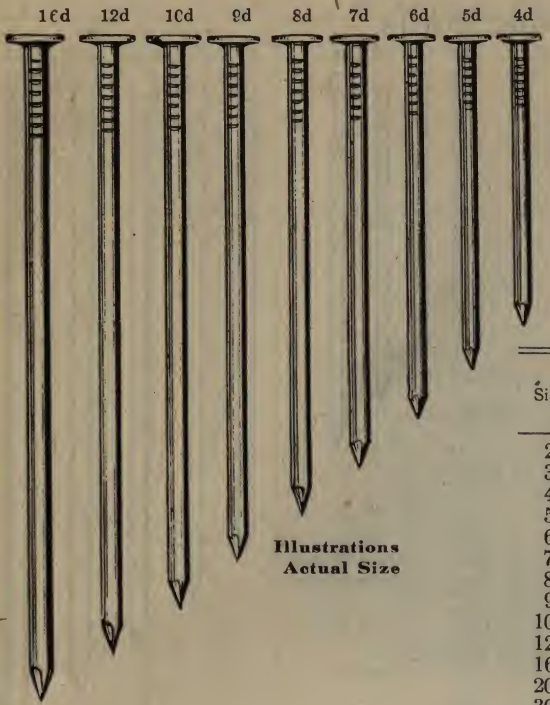
## Light, Bright

| Size | Length and Gauge | Extra Over Base Price | Deg. Csk. | Dia. Head | Approx. No. to Lb. |
|---|---|---|---|---|---|
| 4d | 1½ inch No. 12 | $0.95 | 123 | ¼ | 274 |
| 5d | 1¾ " " 10 | .75 | 123 | 9/32 | 142 |
| 6d | 2 " " 10 | .70 | 123 | 9/32 | 124 |
| 7d | 2¼ " " 9 | .60 | 123 | 5/16 | 92 |
| 8d | 2½ " " 9 | .50 | 123 | 5/16 | 82 |
| 9d | 2¾ " " 8 | .50 | 123 | 11/32 | 62 |
| 10d | 3 " " 8 | .45 | 123 | 11/32 | 57 |
| 12d | 3¼ " " 7 | .40 | 123 | 3/8 | 50 |
| 16d | 3½ " " 7 | .35 | 123 | 3/8 | 43 |
| 20d | 4 " " 6 | .25 | 123 | 13/32 | 31 |
| 30d | 4½ " " 6 | .25 | 123 | 13/32 | 28 |
| 40d | 5 " " 5 | .25 | 123 | 7/16 | 21 |
| 50d | 5½ " " 4 | .25 | 123 | 15/32 | 17 |
| 60d | 6 " " 4 | .25 | 123 | 15/32 | 15 |

## Heavy, Bright

| Size | Length and Gauge | Extra Over Base Price | Deg. Csk. | Dia. Head | Approx. No. to Lb. |
|---|---|---|---|---|---|
| 4d | 1½ inch No. 10 | $0.80 | 123 | 9/32 | 165 |
| 5d | 1¾ " " 9 | .70 | 123 | 5/16 | 118 |
| 6d | 2 " " 9 | .65 | 123 | 5/16 | 103 |
| 7d | 2¼ " " 8 | .60 | 123 | 11/32 | 76 |
| 8d | 2½ " " 8 | .50 | 123 | 11/32 | 69 |
| 9d | 2¾ " " 7 | .50 | 123 | 3/8 | 54 |
| 10d | 3 " " 7 | .45 | 123 | 3/8 | 50 |
| 12d | 3¼ " " 6 | .35 | 123 | 13/32 | 42 |
| 16d | 3½ " " 6 | .30 | 123 | 13/32 | 35 |
| 20d | 4 " " 5 | .25 | 123 | 7/16 | 26 |
| 30d | 4½ " " 5 | .25 | 123 | 7/16 | 24 |
| 40d | 5 " " 4 | .25 | 123 | 15/32 | 18 |
| 50d | 5½ " " 3 | .25 | 123 | ½ | 15 |
| 60d | 6 " " 3 | .25 | 123 | ½ | 13 |

# Box Nails, Smooth—Barbed




Illustrations Actual Size

## Smooth Box Nails

| Size | Length and Gauge | Extra Over Base Price | Dia. Head | Approx. No. to Lb. |
|---|---|---|---|---|
| 2d | 1 inch No. 15½ | $1.65 | 3/16 | 1010 |
| 3d | 1¼ " " 14½ | 1.30 | 7/32 | 635 |
| 4d | 1½ " " 14 | 1.05 | 7/32 | 473 |
| 5d | 1¾ " " 14 | 1.00 | 7/32 | 406 |
| 6d | 2 " " 12½ | .70 | 17/64 | 236 |
| 7d | 2¼ " " 12½ | .65 | 17/64 | 210 |
| 8d | 2½ " " 11½ | .45 | 19/64 | 145 |
| 9d | 2¾ " " 11½ | .45 | 19/64 | 132 |
| 10d | 3 " " 10½ | .30 | 5/16 | 94 |
| 12d | 3¼ " " 10½ | .25 | 5/16 | 88 |
| 16d | 3½ " " 10 | .15 | 11/32 | 71 |
| 20d | 4 " " 9 | .05 | 3/8 | 52 |
| 30d | 4½ " " 9 | .05 | 3/8 | 46 |
| 40d | 5 " " 8 | .05 | 13/32 | 35 |

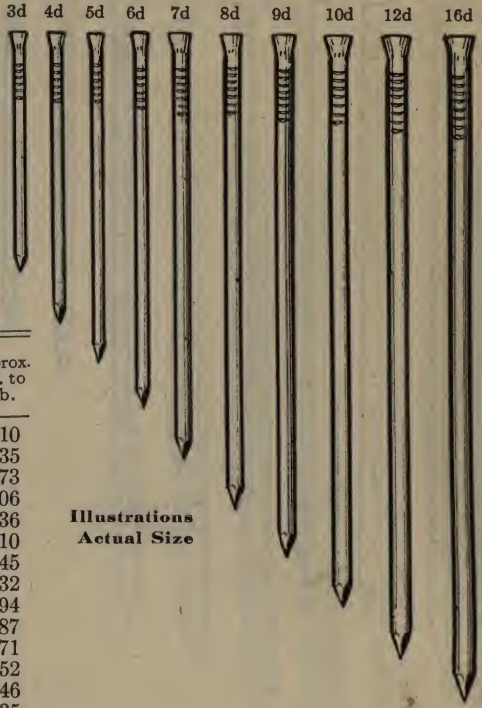

Illustrations Actual Size

## Barbed Box Nails

| Size | Length and Gauge | Extra Over Base Price | Approx. No. to Lb. |
|---|---|---|---|
| 2d | 1 inch No. 15½ | $1.90 | 1010 |
| 3d | 1¼ " " 14½ | 1.55 | 635 |
| 4d | 1½ " " 14 | 1.30 | 473 |
| 5d | 1¾ " " 14 | 1.25 | 406 |
| 6d | 2 " " 12½ | .95 | 236 |
| 7d | 2¼ " " 12½ | .90 | 210 |
| 8d | 2½ " " 11½ | .70 | 145 |
| 9d | 2¾ " " 11½ | .70 | 132 |
| 10d | 3 " " 10½ | .55 | 94 |
| 12d | 3¼ " " 10½ | .50 | 88 |
| 16d | 3½ " " 10 | .40 | 71 |
| 20d | 4 " " 9 | .30 | 52 |
| 30d | 4½ " " 9 | .30 | 46 |
| 40d | 5 " " 8 | .30 | 35 |

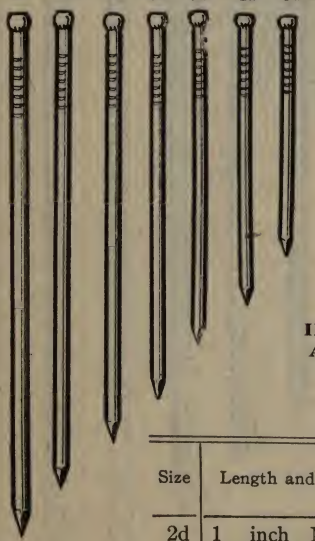
# Casing and Finishing Nails

## Casing Nails




Illustrations Actual Size

| Size | Length and Gauge | Extra Over Base Price | Degree of Countersunk | Dia. Head Ga. | Approx. No. to Lb. |
|---|---|---|---|---|---|
| 2d | 1 inch No. 15½ | $1.70 | 32 | 12½ | 1010 |
| 3d | 1¼ " " 14½ | 1.35 | 32 | 11½ | 635 |
| 4d | 1½ " " 14 | 1.10 | 32 | 11 | 473 |
| 5d | 1¾ " " 14 | 1.05 | 32 | 11 | 406 |
| 6d | 2 " " 12½ | .75 | 32 | 9½ | 236 |
| 7d | 2¼ " " 12½ | .70 | 32 | 9½ | 210 |
| 8d | 2½ " " 11½ | .50 | 32 | 8½ | 145 |
| 9d | 2¾ " " 11½ | .50 | 32 | 8½ | 132 |
| 10d | 3 " " 10½ | .35 | 32 | 7½ | 94 |
| 12d | 3¼ " " 10½ | .30 | 32 | 7½ | 87 |
| 16d | 3½ " " 10 | .20 | 32 | 7 | 71 |
| 20d | 4 " " 9 | .10 | 32 | 6 | 52 |
| 30d | 4½ " " 9 | .10 | 32 | 6 | 46 |
| 40d | 5 " " 8 | .10 | 32 | 5 | 35 |




## Finishing Nails

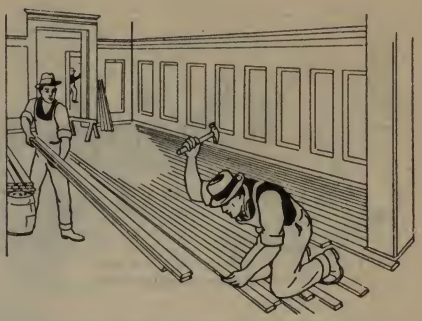
Illustrations Actual Size

| Size | Length and Gauge | Extra Over Base Price | Dia. Head Ga. | Approx. No. to Lb. | Size | Length and Gauge | Extra Over Base Price | Dia. Head Ga. | Approx. No. to Lb. |
|---|---|---|---|---|---|---|---|---|---|
| 2d | 1 inch No. 16½ | $2.00 | 13½ | 1351 | 8d | 2½ inch No. 12½ | $0.60 | 9½ | 189 |
| 3d | 1¼ " " 15½ | 1.55 | 12½ | 807 | 9d | 2¾ " " 12½ | .60 | 9½ | 172 |
| 4d | 1½ " " 15 | 1.25 | 12 | 584 | 10d | 3 " " 11½ | .45 | 8½ | 121 |
| 5d | 1¾ " " 15 | 1.20 | 12 | 500 | 12d | 3¼ " " 11½ | .40 | 8½ | 113 |
| 6d | 2 " " 13 | 1.00 | 10 | 309 | 16d | 3½ " " 11 | .25 | 8 | 90 |
| 7d | 2¼ " " 13 | .70 | 10 | 238 | 20d | 4 " " 10 | .15 | 7 | 62 |

# Flooring and Common Brads

## Flooring Brads

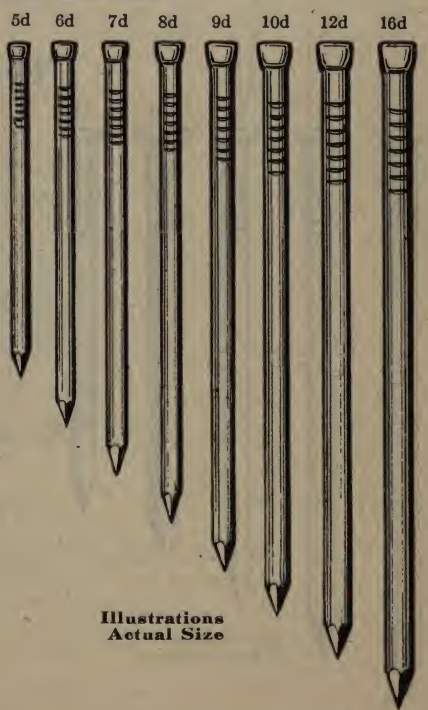

Illustrations Actual Size



| Size | Length and Gauge | Extra Over Base Price | Deg. C's'k | Diam. Head. Gauge | Approximate No. to Lb. |
|---|---|---|---|---|---|
| 6d | 2 inch No. 11 | $0.55 | 32 | 6 | 157 |
| 7d | 2¼ " " 11 | .50 | 32 | 6 | 139 |
| 8d | 2½ " " 10 | .35 | 32 | 5 | 99 |
| 9d | 2¾ " " 10 | .35 | 32 | 5 | 90 |
| 10d | 3 " " 9 | .25 | 32 | 4 | 69 |
| 12d | 3¼ " " 8 | .20 | 32 | 3 | 54 |
| 16d | 3½ " " 7 | .15 | 32 | 2 | 43 |
| 20d | 4 " " 6 | .05 | 32 | 1 | 31 |

Barbed nails furnished in all sizes and styles at 25c per 100 lbs. over smooth.

## Common Brads

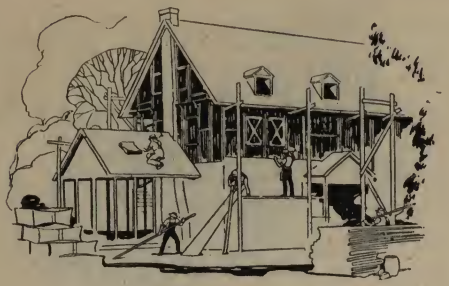



Illustrations Actual Size

| Size | Length of Gauge | Extra Over Base Price | Diam. Head. Gauge | Approx. No. to Lb. |
|---|---|---|---|---|
| 2d | 1 inch No. 15 | $1.50 | 12 | 876 |
| 3d | 1¼ " " 14 | 1.20 | 11 | 568 |
| 4d | 1½ " " 12½ | .85 | 9½ | 316 |
| 5d | 1¾ " " 12½ | .80 | 9½ | 271 |
| 6d | 2 " " 11½ | .65 | 8½ | 181 |
| 7d | 2¼ " " 11½ | .60 | 8½ | 161 |
| 8d | 2½ " " 10¼ | .35 | 7 | 106 |
| 9d | 2¾ " " 10¼ | .35 | 7 | 96 |
| 10d | 3 " " 9 | .25 | 6 | 69 |
| 12d | 3¼ " " 9 | .20 | 6 | 64 |
| 16d | 3½ " " 8 | .15 | 5 | 49 |
| 20d | 4 " " 6 | .05 | 3 | 31 |
| 30d | 4½ " " 5 | .05 | 2 | 24 |
| 40d | 5 " " 4 | .05 | 1 | 18 |
| 50d | 5½ " " 3 | .05 | 0 | 16 |
| 60d | 6 " " 2 | .05 | 00 | 11 |

# Siding and Fence Nails

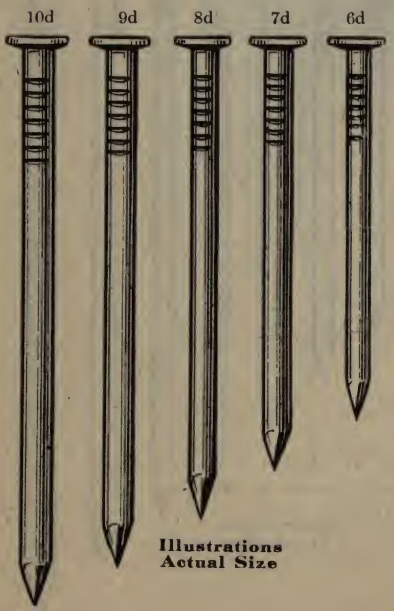
## Siding Nails




Illustrations Actual Size

| Size | Length and Gauge | Extra Over Base Price | Approx. No. to Lb. |
|---|---|---|---|
| 2d | 1 inch No. 15½ | $1.65 | 1010 |
| 3d | 1¼ " " 14½ | 1.30 | 635 |
| 4d | 1½ " " 14 | 1.05 | 473 |
| 5d | 1¾ " " 14 | 1.00 | 406 |
| 6d | 2 " " 12½ | .70 | 236 |
| 7d | 2¼ " " 12½ | .65 | 210 |
| 8d | 2½ " " 11½ | .45 | 145 |
| 9d | 2¾ " " 11½ | .45 | 132 |
| 10d | 3 " " 10½ | .30 | 94 |

## Fence Nails

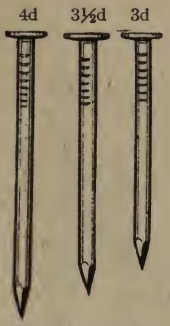



Illustrations Actual Size

| Size | Length and Gauge | Extra Over Base Price | Diam. Head | Approx. No. to Lb. |
|---|---|---|---|---|
| 5d | 1¾ inch No. 10 | $0.50 | 9/32 | 142 |
| 6d | 2 " " 10 | .45 | 9/32 | 124 |
| 7d | 2¼ " " 9 | .35 | 5/16 | 92 |
| 8d | 2½ " " 9 | .25 | 5/16 | 82 |
| 9d | 2¾ " " 8 | .25 | 11/32 | 62 |
| 10d | 3 " " 7 | .20 | 3/8 | 50 |
| 12d | 3¼ " " 6 | .10 | 13/32 | 40 |
| 16d | 3½ " " 5 | .05 | 7/16 | 30 |
| 20d | — " " 4 | Base | 15/32 | 23 |

# Shingle, Slating and Metal Lath Nails

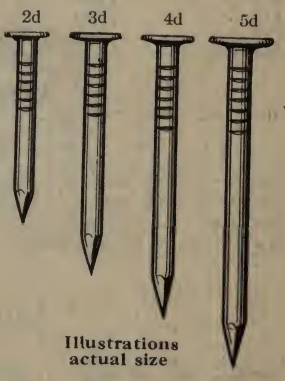
## Shingle Nails




Illustrations actual size

| Size | Length and Gauge | Extra over Base Price | Diam. Head | Approx. No. to Lb. |
|---|---|---|---|---|
| 3d | 1¼ inch No. 13 | $0.90 | 7/32 | 429 |
| 3½d | 1⅜ " " 12½ | .75 | ¼ | 345 |
| 4d | 1½ " " 12 | .70 | ¼ | 274 |

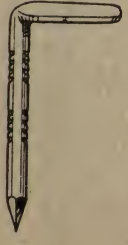
## Slating Nails




Illustrations actual size

| Size | Length and Gauge | Extra over Base Price | Deg. of Countersunk | Diam. Head | Approx. No. to Lb. |
|---|---|---|---|---|---|
| 2d | 1 inch No. 12 | $1.20 | 145 | 9/32 | 411 |
| 3d | 1¼ " " 10½ | .95 | 145 | 5/16 | 225 |
| 4d | 1½ " " 10½ | .85 | 145 | 5/16 | 187 |
| 5d | 1¾ " " 10 | .75 | 145 | 11/32 | 142 |
| 6d | 2 " " 9 | .65 | 145 | 3/8 | 103 |

## Hook Head Metal Lath Nail



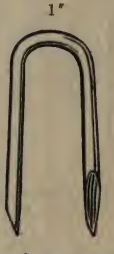



Illustration actual size

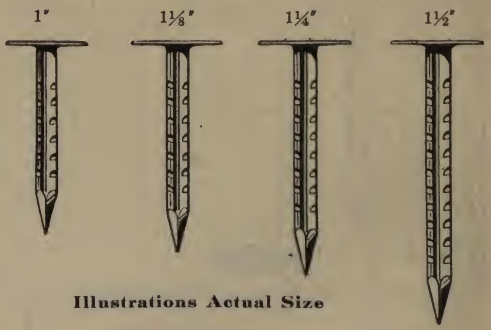
This is a 1⅛ x 12 bright smooth nail with a long, thin, flat head especially suited for applying metal lath. Can also be furnished blued, galvanized, and in other lengths.

Approximate count per pound, blued or bright, 278; galvanized, 213.

Prices on application.

# Roofing Nails

## Large Head Barbed Roofing Nails



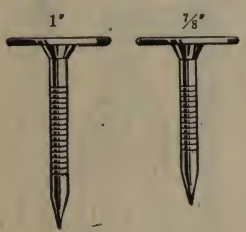

**Illustrations Actual Size**

| Length | 8 Ga. ½-in. Hd. | 9 Ga. ½-in. Hd. | 9½ Ga. ½-in. Hd. | 10 Ga. 7/16-in. Hd. | 10 Ga. ½-in. Hd. | 12 Ga. 3/8-in. Hd. |
|---|---|---|---|---|---|---|
| ¾ inch.. | $1.65 | $1.75 | $1.80 | $1.85 | $1.95 | $1.80 |
| ⅞ " .. | 1.55 | 1.65 | 1.70 | 1.75 | 1.85 | 1.65 |
| 1 " .. | 1.45 | 1.55 | 1.60 | 1.65 | 1.75 | 1.60 |
| 1⅛ " . | 1.40 | 1.50 | 1.55 | 1.60 | 1.70 | 1.60 |
| 1¼ " .. | 1.35 | 1.45 | 1.50 | 1.55 | 1.65 | |
| 1½ " .. | 1.30 | 1.40 | 1.45 | 1.50 | 1.60 | |
| 1¾ " .. | 1.25 | 1.35 | 1.40 | 1.45 | 1.55 | |

**Approximate Number of Nails to the Pound**

| Size | ¾ in. | ⅞ in. | 1 in. | 1⅛ in. | 1¼ in. | 1½ in. | 1¾ in. |
|---|---|---|---|---|---|---|---|
| No. 8—½-inch head..... | 205 | 179 | 158 | 142 | 128 | 108 | 93 |
| No. 9—½-inch head..... | 252 | 219 | 193 | 173 | 156 | 131 | 113 |
| No. 9½—½-inch head..... | 266 | 231 | 205 | 184 | 167 | 141 | 122 |
| No. 10—7/16 or ½-inch head.. | 290 | 253 | 224 | 201 | 183 | 154 | 133 |

## American Felt Roofing Nails




**Illustrations Actual Size**

A large head nail especially designed for use in laying prepared roofing material. This nail, having an extra large head and thin shank, meets admirably the requirements for placing all prepared roofing. The head is reinforced on the shank so that it will not easily pull or break off.

*Prices on application*

| Length | Gauge | Count per Pound | | Diameter of Head | Length | Gauge | Count per Pound | | Diameter of Head |
|---|---|---|---|---|---|---|---|---|---|
| | | Bright | Galvanized | | | | Bright | Galvanized | |
| ¾ inch | No. 11 | 184 | 164 | ⅝ inch | ¾ inch | No. 12 | 210 | 188 | ⅝ inch |
| ⅞ " | " 11 | 175 | 157 | ⅝ " | ⅞ " | " 12 | 195 | 175 | ⅝ " |
| 1 " | " 11 | 162 | 145 | ⅝ " | 1 " | " 12 | 180 | 162 | ⅝ " |
| 1⅛ " | " 11 | 149 | 133 | ⅝ " | 1⅛ " | " 12 | 170 | 154 | ⅝ " |
| 1¼ " | " 11 | 136 | 122 | ⅝ " | 1¼ " | " 12 | 161 | 147 | ⅝ " |

# Sterilized Blued Lath, Fine, Plaster Board and Roofing Nails

## Sterilized Blued Lath Nails


Illustrations actual size

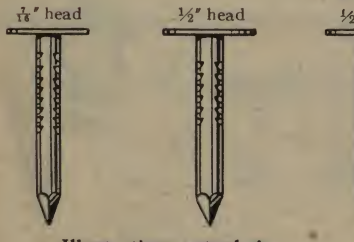
| Size | Length and Gauge | Extra over Base Price | Approx. No. to Lb. |
|---|---|---|---|
| 2d | 1 inch No. 16½ | $2.20 | 1351 |
| 2d Light | 1 " " 17 | 2.20 | 1560 |
| 3d | 1⅛ " " 15 | 1.60 | 778 |
| 3d Light | 1⅛ " " 16 | 1.80 | 1015 |

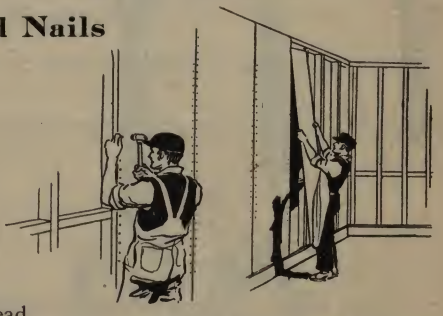
Lathers carry the nails in the mouth while at work and it is, therefore, from the standpoint of health sanitation, necessary to have the nails free from all injurious substances. Polished or bright nails cannot be made or kept entirely clean owing to process of manufacture as well as the effect of atmospheric conditions. Packed in paper-lined kegs.

## Fine Nails Bright

| Size | Length and Gauge | Extra over Base Price | Approx. No. to Lb. |
|---|---|---|---|
| 2d | 1 inch No. 16½ | $1.95 | 1351 |
| 2d Extra Fine | 1 " " 17 | 1.95 | 1560 |
| 3d | 1⅛ " " 15 | 1.35 | 778 |
| 3d Extra Fine | 1⅛ " " 16 | 1.55 | 1015 |
| 4d | 1½ " " 14 | 1.05 | 473 |

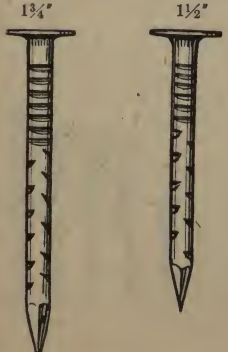
## Plaster Board Nails



Illustrations actual size

A smooth nail with diamond point and large flat head.




Illustrations actual size

Made in 1, 1¼ and 1½ inch lengths, of Nos. 9 and 10 gauge wire, with ½-inch diameter head, and of No. 11 gauge wire, with 7/16-inch diameter head. Price upon application.

## Standard Barbed Roofing Nails

| Size | Length and Gauge | Extra over Base Price | Approx. No. to Lb. |
|---|---|---|---|
| ¾ inch | ¾ inch No. 13 | $1.55 | 714 |
| ⅞ " | ⅞ " " 12 | 1.30 | 469 |
| 1 " | 1 " " 12 | 1.20 | 411 |
| 1⅛ " | 1⅛ " " 12 | 1.10 | 365 |
| 1¼ " | 1¼ " " 11 | .95 | 251 |
| 1⅜ " | 1⅜ " " 11 | .90 | 230 |
| 1½ " | 1½ " " 10 | .80 | 176 |
| 1¾ " | 1¾ " " 10 | .75 | 151 |
| 2 " | 2 " " 9 | .65 | 103 |

# Shade Nails, Shade Roller Pins and Escutcheon Pins

## Shade Nails


Made in ¾, ⅞ and 1-inch lengths, of No. 13 gauge wire, with slightly countersunk $\frac{9}{32}$-inch diameter flat head, and needle point.

PRICES on these nails are the same as for miscellaneous nails, plus extras for special features, such as for head and point, as shown in Miscellaneous Nail list.

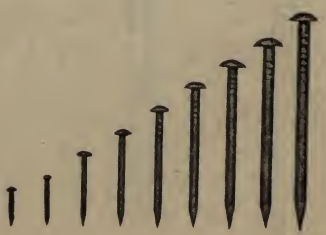
## Shade Roller Pins

These pins are made in different sizes, according to specification. Price upon application.

## Steel Escutcheon Pins

Made in various lengths and gauges, with oval head and needle point.

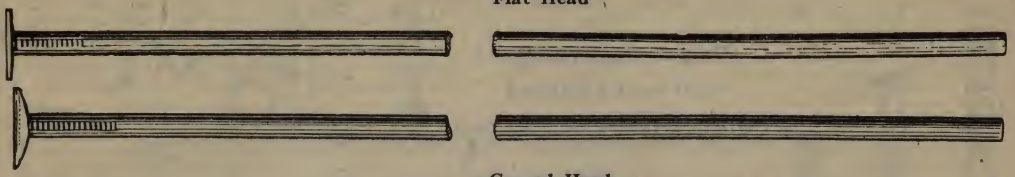
Prices on these nails are the same as for miscellaneous nails, plus extras for special features, such as for head and point as shown in Miscellaneous Nail list.



# Sheet Roofing Fasteners, Egg Case or Crate Fasteners, Mrs. McGregor Nail Boxes, and Meat Tag Fasteners

## Sheet Roofing Fasteners

**Flat Head**



**Curved Head**

**Made in Following Sizes:**

| Length | Diameter | Approximate Count per Pound |
|---|---|---|
| 6 inch | ⅛ inch | 46 |
| 7 " | ⅛ inch | 40 |
| 8 " | ⅛ inch | 34 |
| 9 " | ⅛ inch | 31 |
| 10 " | ⅛ inch | 28 |
| 12 " | ⅛ inch | 23 |
| 14 " | ⅛ inch | 20 |
| 8 " | No. 10 gauge | 30 |
| 9 " | " | 27 |
| 10 " | " | 24 |
| 12 " | " | 20 |
| 13 " | " | .... |
| 14 " | " | .... |
| 15 " | " | .... |
| 15½" | " | .... |

Annealed or galvanized.

Price upon application.

## Egg Case or Crate Fasteners

These fasteners are made in different sizes, according to specification.

Price upon application.

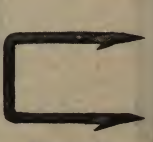
## Mrs. McGregor Nail Boxes

Containing an assortment of nails. Very handy for use about the house.

Put up in illuminated tin display boxes, 2½x3½ inches. Weight of nails and box, 7 ounces. Packed in cases, one gross in a case.

Price upon application.

## Meat Tag Fasteners



**Exact Size**
**No. 17 Gauge**

Packed 1,000 in a carton, 150 cartons to the case. Also in kegs.

Approximately 1,000 to the pound.

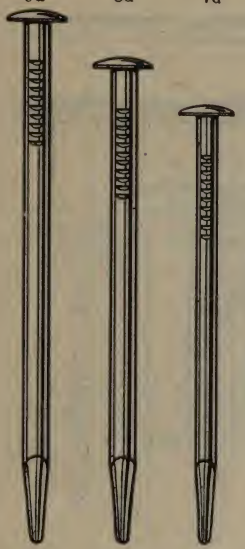
Coppered or tinned.

Price upon application.

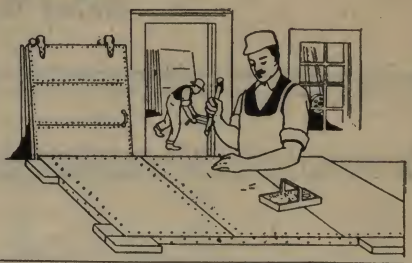
# Clinch, Cigar Box Nails and Blued Hoop Fasteners

## Clinch Nails

**Duck Bill Points, Bright or Annealed**



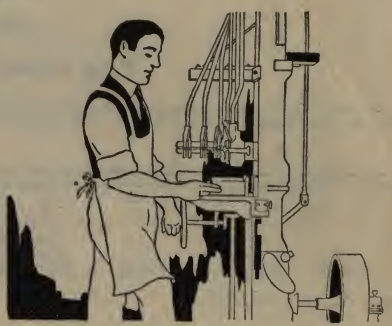

**Bright Clinch Nails will be Furnished Unless Otherwise Ordered**



Illustrations actual size

| Size | Length and Gauge | Extra Over Base Price | | Head Rad. | Dia. Head | Approx. No. to Lb. |
|---|---|---|---|---|---|---|
| | | Bright | Annealed | | | |
| 2d | 1 inch No. 14 | $1.55 | $1.80 | 1/4 | 3/16 | 710 |
| 3d | 1 1/4 " " 13 | 1.15 | 1.40 | 1/4 | 7/32 | 429 |
| 4d | 1 1/2 " " 12 | .95 | 1.20 | 1/4 | 1/4 | 274 |
| 5d | 3/4 " " 12 | .90 | 1.15 | 1/4 | 1/4 | 235 |
| 6d | 2 " " 11 | .75 | 1.00 | 5/16 | 2 6a. | 157 |
| 7d | 2 1/4 " " 11 | .70 | .95 | 5/16 | 2 6a. | 139 |
| 8d | 2 1/2 " " 10 | .55 | .80 | 5/16 | 9/32 | 99 |
| 9d | 2 3/4 " " 10 | .55 | .80 | 5/16 | 9/32 | 90 |
| 10d | 3 " " 9 | .45 | .70 | 5/16 | 5/16 | 69 |
| 12d | 3 1/4 " " 9 | .40 | .65 | 5/16 | 5/16 | 62 |
| 16d | 3 1/2 " " 8 | .35 | .60 | 3/8 | 11/32 | 49 |
| 20d | 4 " " 7 | .30 | .55 | 3/8 | 3/8 | 37 |

## Cigar Box Nails

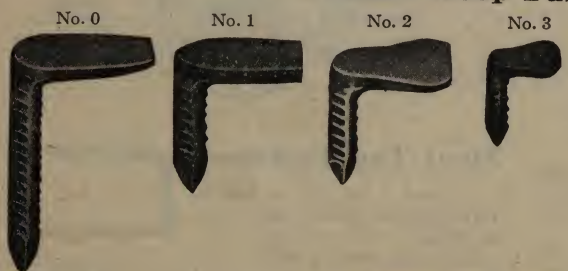


Cigar Box Nails made with short diamond point, or if so ordered with short needle point. Bright, barbed or smooth. Made in sizes 1/2 in., 5/8 in., and 3/4 in., of either No. 18, No. 19 or No. 20 gauge. Packed in kegs, 25-lb. boxes, and in 1-lb., 5-lb. or 10-lb. packages.

Flat or oval heads, as ordered.

Price upon application.

## Blued Hoop Fasteners




118 to pound
1 in. long
No. 6 gauge

212 to pound
3/4 in. long
No. 9 gauge

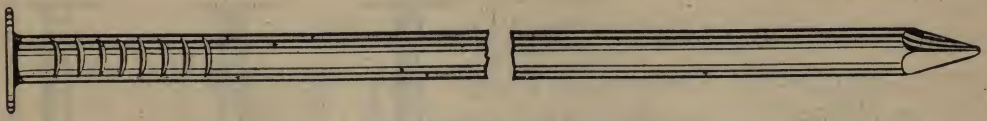
308 to pound
1/2 in. long
No. 10 1/2 gauge

976 to pound
3/8 in. long
No. 13 gauge

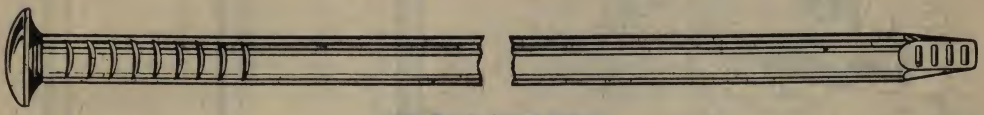
Packed 100 lbs. or 110 lbs. to the keg.
Also furnished galvanized.
Price upon application.

# Gutter Spikes, Saddlery and Basket Nails

## Gutter Spikes



Flat Head Diamond Point



Oval Head Chisel Point

Made in lengths of 5½ inches to 10½ inches inclusive, of ¼-inch diameter wire, with either flat head, diamond point, or oval head, chisel point.

Bright or Galvanized.

Price upon application.

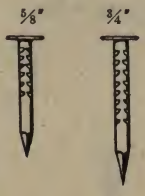
## Saddlery Nail (Hame Rivet)

**Oval Head, Long Diamond Point, Annealed, Smooth**

Made in 1½-inch length of No. 7 and No. 7½ gauge wires.

These nails are used as rivets for fastening trimming to a hame. After they are driven the point is cut off and the end is riveted.

Price upon application.



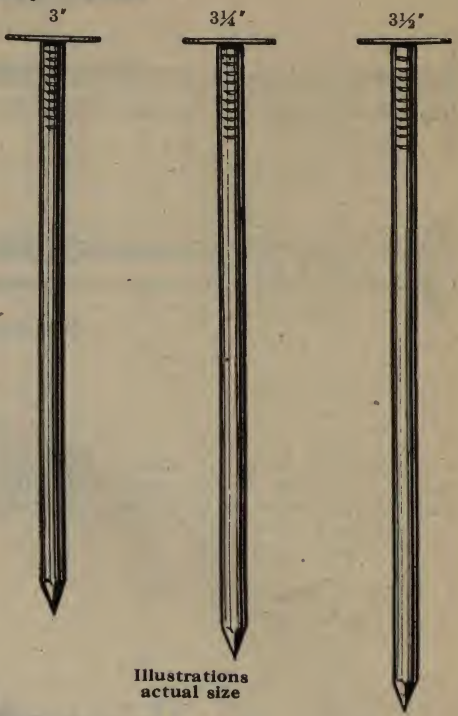

Are usually made ⅝ inch or ¾ inch in length, of No. 18 gauge smooth wire, with needle point and large flat head.

PRICES on these nails are the same as for miscellaneous nails, plus extras for special features, such as for head and point, shown in Miscellaneous Nail list.

## Basket Nails

# Foundry, Broom and Clout Nails

## Smooth Foundry Nails




Illustrations actual size

These nails are made of Nos. 8, 9, and 10 gauge wire, with ½-inch diameter heads; also made of No. 11 gauge wire, with $\frac{7}{16}$-inch diameter heads, in lengths ¾ inch and longer.

Price upon application.

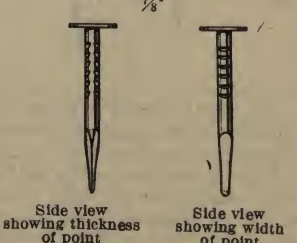
## Broom Nails


Are usually ⅝ inch or ¾ inch long, made from No. 14 or No. 15 gauge wire, with flat or star heads, diamond point.

| | Extra over Base Price |
|---|---|
| ⅝ x 14 | $1.85 |
| ⅝ x 15 | 2.10 |
| ¾ x 14 | 1.60 |
| ¾ x 15 | 1.80 |

## Clout Nails

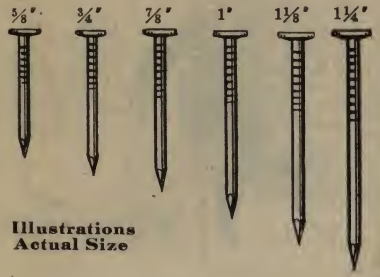
| Length | Gauge | Extra over Base Price | | Approx. No. to Lb. |
|---|---|---|---|---|
| | | Annealed | Bright | |
| ¾ inch | No. 15 | $2.40 | $2.15 | 1160 |
| ⅞ " | " 14 | 2.15 | 1.90 | 808 |
| 1 " | " 14 | 1.90 | 1.65 | 705 |
| 1⅛ " | " 14 | 1.75 | 1.50 | 628 |
| 1¼ " | " 13 | 1.45 | 1.20 | 423 |
| 1⅜ " | " 13 | 1.35 | 1.10 | 390 |
| 1½ " | " 13 | 1.10 | .85 | 350 |




Illustrations actual size

# Barrel and Berry Box Nails

## Barrel Nails




**Illustrations Actual Size**

| Size | Length and Gauge | Extra Over Base Price | Dia. Head | Approx. No. to Lb. |
|---|---|---|---|---|
| ⅝ inch | ⅝ inch No. 15½ | $2.25 | 9 Ga. | 1615 |
| ¾ " | ¾ " " 15½ | 1.90 | 9 " | 1346 |
| ⅞ " | ⅞ " " 14½ | 1.55 | 7 " | 906 |
| 1 " | 1 " " 14½ | 1.45 | 7 " | 775 |
| 1⅛ " | 1⅛ " " 14½ | 1.35 | 7 " | 700 |
| 1¼ " | 1¼ " " 14 | 1.15 | 3/16 | 568 |
| 1⅜ " | 1 " " 13 | .85 | 7/32 | 400 |
| 1½ " | 1½ " " 13 | .80 | 7/32 | 367 |

## Berry Box Nails

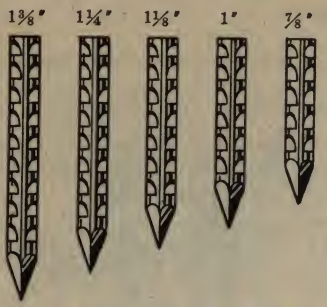
**Diamond or Needle Point, Barbed Flat Head**


**Illustrations Actual Size**

| Size | Length and Gauge | Extra Over Base Price | Dia. Head | Approx. No. to Lb. |
|---|---|---|---|---|
| | No. 16 | | | |
| ¾ inch | ¾ inch | $2.15 | 9 Ga. | 1500 |
| ⅞ " | ⅞ " | 2.00 | " | 1300 |
| 1 " | 1 " | 1.90 | " | 1150 |
| 1⅛ " | ⅛ " | 1.80 | " | 1010 |
| 1¼ " | 1¼ " | 1.75 | " | 910 |
| | No. 17 | | | |
| ¾ inch | ¾ inch | $2.45 | 9 Ga. | 1500 |
| ⅞ " | ⅞ " | 2.30 | " | 1300 |
| 1 " | 1 " | 2.20 | " | 1150 |
| 1⅛ " | ⅛ " | 2.10 | " | 1010 |
| 1¼ " | 1¼ " | 2.05 | " | 910 |

# Barbed Dowel Pins and Annealed Wagon Nails

## Barbed Dowel Pins




Illustrations Actual Size

### No. 8 Standard

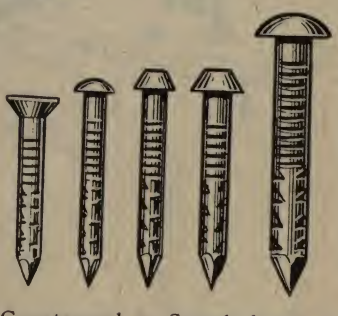
| Size | Length and Gauge | Extra Over Base Price | Approximate No. to Pound |
|---|---|---|---|
| ⅝ inch | ⅝ inch No. 8 | $1.75 | 290 |
| ¾ " | ¾ " " 8 | 1.50 | 250 |
| ⅞ " | ⅞ " " 8 | 1.35 | 210 |
| 1 " | 1 " " 8 | 1.25 | 190 |
| 1⅛ " | 1⅛ " " 8 | 1.15 | 165 |
| 1¼ " | 1¼ " " 8 | 1.10 | 150 |
| 1⅜ " | 1⅜ " " 8 | 1.05 | 130 |
| 1½ " | 1½ " " 8 | 1.00 | 120 |

Also made in the following sizes:

| Size | No. 8 | Size | No. 9 | No. 10 | No. 11 | Size | No. 9 | No. 10 | No. 11 |
|---|---|---|---|---|---|---|---|---|---|
| ½-inch | | ½-inch | | | | 1¼-inch | | | |
| 1⅝ " | | ⅝ " | | | | 1⅜ " | | | |
| 1¾ " | | ¾ " | | | | 1½ " | | | |
| 2 " | | ⅞ " | | | | 1⅝ " | | | |
| | | 1 " | | | | 1¾ " | | | |
| | | 1⅛ " | | | | 2 " | | | |

Prices upon application.

## Annealed Wagon Nails



Made with different styles of heads, such as Oval, Cone, Countersunk or Steeple heads, or a combination of these styles if desired. Well barbed and thoroughly annealed, with heads perfectly uniform, these wagon nails are especially adapted for blacksmiths' use.

PRICES on these nails are the same as for miscellaneous nails, plus extras for special features, such as for heads, barbing and annealing, as shown in Miscellaneous Nail List.

When ordering specify style, point, finish and all features.

# Hinge Nails

## Track Nails

**Diamond or Chisel Point. Will be Furnished with Chisel Point Unless Diamond Point is Specified**

**In Ordering Hinge Nails Specify whether Oval or Countersunk Head, Light or Heavy, Annealed or Bright**

## Light Hinge Nails

**Bright**

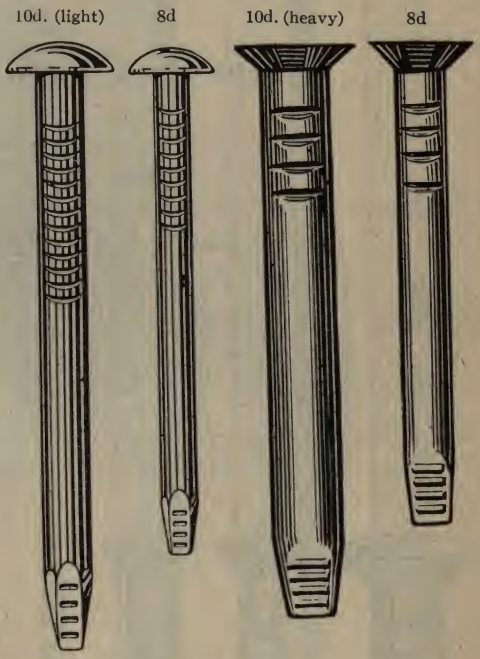
| Size | Length and Gauge | Extra over Base Price | Deg. Csk. | Dia. Head | Approx. No. to Lb. |
|---|---|---|---|---|---|
| 4d | 1½ inch No. 3/16 | $1.00 | 95 | 13/32 | 82 |
| 6d | 2 " " 3/16 | .90 | 95 | 13/32 | 62 |
| 8d | 2½ " " 3/16 | .75 | 95 | 13/32 | 50 |
| 10d | 3 " " 1/4 | .65 | 95 | 1/2 | 25 |
| 12d | 3¼ " " 1/4 | .60 | 95 | 1/2 | 23 |
| 16d | 3½ " " 1/4 | .55 | 95 | 1/2 | 22 |
| 20d | 4 " " 1/4 | .50 | 95 | 1/2 | 19 |

## Heavy Hinge Nails

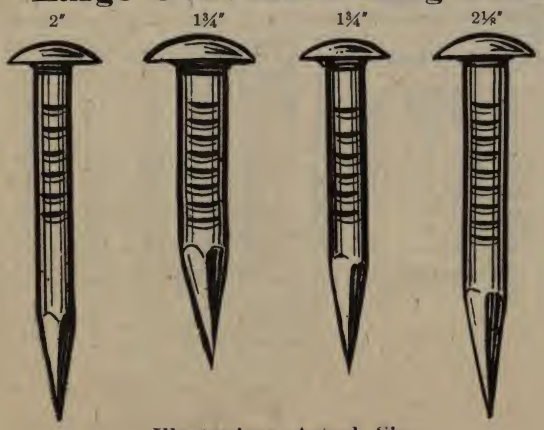
**Bright**

| Size | Length and Gauge | Extra over Base Price | Deg. Csk. | Dia. Head | Approx. No. to Lb. |
|---|---|---|---|---|---|
| 4d | 1½ inch No. 1/4 | $0.95 | 95 | 1/2 | 50 |
| 6d | 2 " " 1/4 | .85 | 95 | 1/2 | 38 |
| 8d | 2½ " " 1/4 | .70 | 95 | 1/2 | 30 |
| 10d | 3 " 3/8 inch | .65 | 95 | 3/4 | 12 |
| 12d | 3¼ " 3/8 " | .60 | 95 | 3/4 | 11 |
| 16d | 3½ " 3/8 " | .55 | 95 | 3/4 | 10 |
| 20d | 4 " 3/8 " | .50 | 95 | 3/4 | 9 |

Annealed nails 25c per 100 lbs. advance.




## Large Oval Head Long Diamond Point Hinge Nails




**Illustrations Actual Size**

**(Sometimes Called Truss Head Nails)**
**Approximate Number Per Pound**

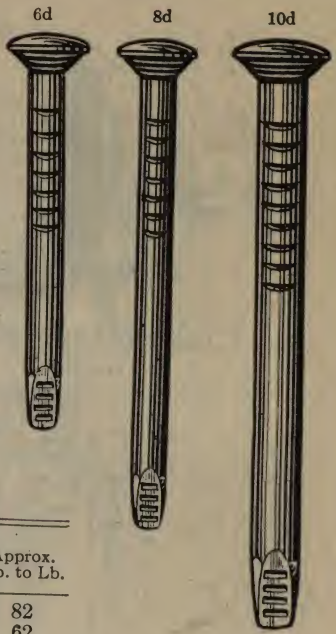
| Length | 3/16-inch | 1/4-inch |
|---|---|---|
| 1½ inch | 81 | 47 |
| 1¾ " | 68 | 41 |
| 2 " | 61 | 33 |
| 2¼ " | 54 | 31 |
| 2½ " | 48 | 28 |
| 2¾ " | 45 | 26 |
| 3 " | 41 | 24 |

3/16 inch and 1/4 inch by 1½ inch, 1¾ inch, 2 inch, 2½ inch, 2¾ inch and 3 inch.

**Packed in Kegs, and 50, 25, 10 and 5 Pound Boxes**

Prices on application

# Boat Nails



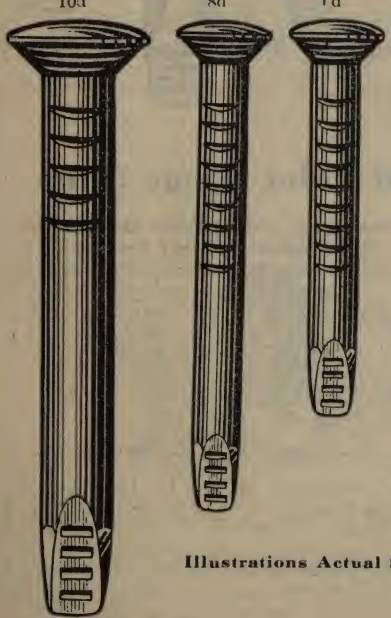

## Light Boat Nails

Illustrations Actual Size

**Bright**

| Size | Length and Gauge | Extra over Base Price | Deg. Csk. | Head Rad. | Dia. Head | Approx. No. to Lb. |
|---|---|---|---|---|---|---|
| 4d | 1½ inch No. 3/16 | $1.25 | 95 | 7/16 | 13/32 | 82 |
| 6d | 2 " " 3/16 | 1.15 | 95 | 7/16 | 13/32 | 62 |
| 8d | 2½ " " 3/16 | 1.00 | 95 | 7/16 | 13/32 | 50 |
| 10d | 3 " " 1/4 | .90 | 95 | 7/16 | 1/2 | 22 |
| 12d | 3¼ " " 1/4 | .85 | 95 | 7/16 | 1/2 | 20 |
| 16d | 3½ " " 1/4 | .80 | 95 | 7/16 | 1/2 | 18 |
| 20d | 4 " " 1/4 | .75 | 95 | 7/16 | 1/2 | 16 |

Annealed nails 25c per 100 pounds advance.




Illustrations Actual Size

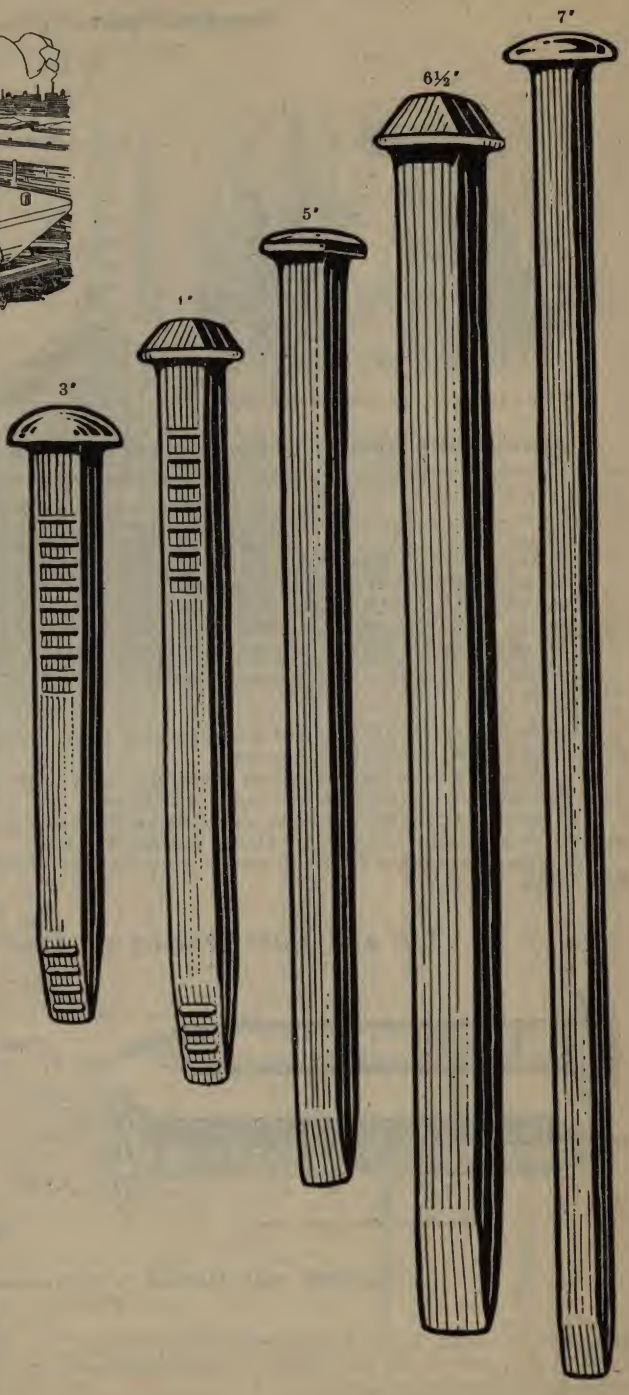
## Heavy Boat Nails

**Bright**

| Size | Length and Gauge | Extra over Base Price | Deg. Csk. | Head Rad. | Dia. Head | Approx. No. to Lb. |
|---|---|---|---|---|---|---|
| 4d | 1½ inch No. 1/4 | $1.05 | 95 | 7/16 | 1/2 | 44 |
| 6d | 2 " " 1/4 | .95 | 95 | 7/16 | 1/2 | 32 |
| 8d | 2½ " " 1/4 | .85 | 95 | 7/16 | 1/2 | 26 |
| 10d | 3 " " 3/8 | .75 | 95 | 7/16 | 3/4 | 14 |
| 12d | 3¼ " " 3/8 | .75 | 95 | 7/16 | 3/4 | 13 |
| 16d | 3½ " " 3/8 | .75 | 95 | 7/16 | 3/4 | 12 |
| 20d | 4 " " 3/8 | .75 | 95 | 7/16 | 3/4 | 10 |

Annealed nails 25c per 100 pounds advance.

# Barge Spikes




Boat and railroad spikes are driven mostly in hard timbers and it stands to reason that a spike with a clean cut, sharp, chisel point will facilitate the work.

Our process of manufacture insures a product that has all the essential features necessary in a spike that will drive easily and hold well after driven.

The proper stock is used to make spikes that will drive straight and true, and our product runs uniform as to lengths and gauges. Heads will not fly off.

For a first-class job in track, bridge or trestle work use American Steel & Wire Company *Railroad and Boat Spikes.*

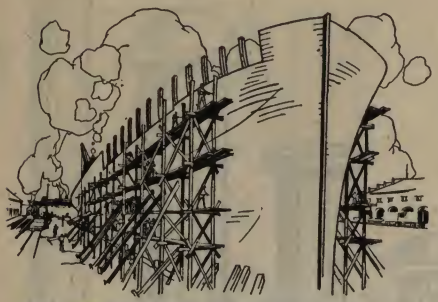
## Sizes

| | | | |
|---|---|---|---|
| ¼ | inch | square, | 3 to 3½ inches long |
| ¼ | " | " | 4 to 8 inches long |
| 5/16 | " | " | 3½ inches long |
| 5/16 | " | " | 4 to 8 inches long |
| ⅜ | " | " | 3 to 3½ inches long |
| ⅜ | " | " | 4 to 12 inches long |
| 7/16 | " | " | 6 to 12 inches long |
| ½ | " | " | 6 to 12 inches long |
| ⅝ | " | " | 8 to 14 inches long |

In kegs of 200 pounds.

# Boat Spikes and Dating or Marking Nails

## Square Boat Spikes



Also used for dock and heavy plank work

**Extras over Base Prices**

| | | Length inches | Per 100 lbs. |
|---|---|---|---|
| 1/4 | inch square, | 3 to 3½ | $1.00 |
| 1/4 | " " | 4 to 8 | .75 |
| 5/16 | " " | 3½ | .70 |
| 5/16 | " " | 4 to 8 | .45 |
| 3/8 | " " | 3 to 3½ | .55 |
| 3/8 | " " | 4 to 12 | .30 |
| 7/16 | " " | 6 to 12 | .20 |
| 1/2 | " " | 6 to 12 | .15 |
| 5/8 | " " | 8 to 14 | .15 |

OTHER SIZES: Other than regular sizes shown above, can be furnished at a slight extra charge.

Packed in 200-lb. kegs.

**Approximate Number of Boat Spikes to a Keg of 200 Pounds**

| Length Inches | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/8 in. sq. | ..... | ..... | ..... | 330 | 292 | 260 | 234 | 210 | 194 | 178 | 166 | 152 |
| 1/2 in. sq. | ..... | 648 | 512 | 434 | 384 | 338 | 294 | 262 | 236 | 212 | 198 | 186 |
| 7/16 in. sq. | 1,082 | 812 | 692 | 572 | 484 | 414 | 380 | 348 | 318 | 292 | 268 | 246 |
| 3/8 in. sq. | 1,476 | 1,110 | 920 | 748 | 634 | 554 | 500 | 458 | 416 | 378 | 348 | 320 |
| 5/16 in. sq. | 2,176 | 1,646 | 1,386 | 1,138 | 974 | 858 | 778 | 708 | 648 | 592 | ..... | ..... |
| 1/4 in. sq. | 3,400 | 2,600 | 2,040 | 1,748 | 1,456 | 1,294 | ..... | ..... | ..... | ..... | ..... | ..... |

NOTE.—The above is given as APPROXIMATE, and the Company is not to be bound in any way to protect these figures.

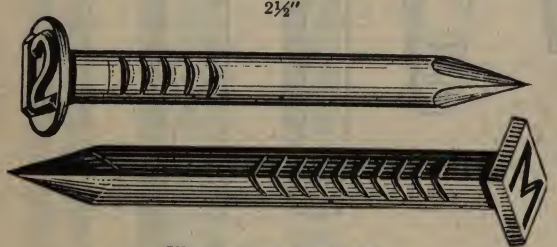
These are driven mostly in hard timbers and it stands to reason that a spike with a clean-cut sharp, chisel point will facilitate the work.

Our process of manufacture insures a product that has all the essential features necessary in a spike that will drive easily and hold well after driven.

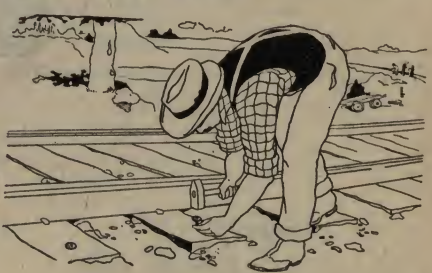
The proper stock is used to make spikes that will drive straight and true, and our product runs uniform as to lengths and gauge. Heads will not fly off.

For a first-class job in bridge or trestle work use AMERICAN STEEL & WIRE COMPANY *Boat Spikes.*

## Tie and Pole Dating or Marking Nails




Illustrations actual size



**Furnished with Raised or Depressed Figures**

| | Approx. Count per lb. Bright | Galv. |
|---|---|---|
| Standard size, round, 2½-inch length, No. 3 gauge wire | 30 | 27 |
| Standard size, square, 2½-inch length, ¼-inch diameter wire | 23 | 20 |

Bright, galvanized or tinned.

Packed in 100 lb. kegs.

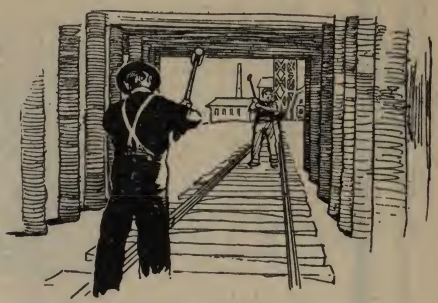
Price upon application.

# Railroad and Shimming Spikes

## Railroad Spikes

### Extras over Base Price

| in. | in. | Per 100 Lbs. |
|---|---|---|
| 1/4 | 1 1/4 | $2.00 |
| 1/4 | 1 1/2 | 1.75 |
| 1/4 | 2 to 2 1/2 | 1.50 |
| 1/4 | 3 | 1.35 |
| 5/16 | 2 | 1.30 |
| 5/16 | 2 1/2 to 4 | .95 |
| 3/8 | 2 | .75 |
| 3/8 | 2 1/2 | .65 |
| 3/8 | 3 to 4 1/2 | .40 |
| 7/16 | 3 | .35 |
| 7/16 | 3 to 4 1/2 | .25 |
| 1/2 | 2 1/2 | .25 |
| 1/2 | 3 to 5 | .15 |
| *9/16 | 4 1/2 and larger | Base |



Reversed points, ¼c. per pound extra.
Other than regular sizes shown above can be furnished at a slight extra charge.
Packed in kegs of 200 pounds.
*9/16-inch railroad spikes are not made by us, but we carry in stock sizes 5 and 5 1/2 x 9/16 for convenience of customers in making shipment of mixed carloads of our railroad and boat spikes.

### Approximate Number of Railroad Spikes to a Keg of 200 Pounds

| Size, Measured Under Head | Average Number per Keg | Ties 2 Feet Between Centers, 4 Spikes per Tie, Makes per Mile— | Size, Measured Under Head | Average Number per Keg | Ties 2 Feet Between Centers, 4 Spikes per Tie, Makes per Mile— |
|---|---|---|---|---|---|
| 5 x 1/2 | 460 | 4,592 lbs.—22.96 kegs | 2 1/2 x 3/8 | 1,600 | 1,320 lbs.— 6.60 kegs |
| 4 1/2 x 1/2 | 528 | 4,000 " —20.00 " | 2 1/4 x 3/8 | 1,750 | 1,206 " — 6.03 " |
| 4 x 1/2 | 592 | 3,568 " —17.84 " | 2 x 3/8 | 1,902 | 1,112 " — 5.56 " |
| 3 1/2 x 1/2 | 660 | 3,200 " —16.00 " | 4 x 5/16 | 1,630 | 1,308 " — 6.54 " |
| 3 x 1/2 | 732 | 2,886 " —14.43 " | 3 1/2 x 5/16 | 1,810 | 1,168 " — 5.84 " |
| 2 1/2 x 1/2 | 814 | 2,596 " —12.98 " | 3 x 5/16 | 2,066 | 1,024 " — 5.12 " |
| 5 x 7/16 | 664 | 3,178 " —15.89 " | 2 1/2 x 5/16 | 2,380 | 888 " — 4.44 " |
| 4 1/2 x 7/16 | 712 | 2,966 " —14.83 " | 2 1/4 x 5/16 | 2,760 | 766 " — 3.83 " |
| 4 x 7/16 | 764 | 2,766 " —13.83 " | 2 x 5/16 | 2,912 | 726 " — 3.63 " |
| 3 1/2 x 7/16 | 854 | 2,474 " —12.37 " | 1 1/2 x 5/16 | 4,200 | 504 " — 2.52 " |
| 3 x 7/16 | 1,032 | 2,048 " —10.24 " | 3 x 1/4 | 3,266 | 646 " — 3.23 " |
| 2 1/2 x 7/16 | 1,210 | 1,746 " — 8.73 " | 2 1/2 x 1/4 | 4,120 | 512 " — 2.56 " |
| 5 x 3/8 | 908 | 2,326 " —11.63 " | 2 1/4 x 1/4 | 4,600 | 460 " — 2.30 " |
| 4 1/2 x 3/8 | 1,000 | 2,112 " —10.56 " | 2 x 1/4 | 4,778 | 442 " — 2.21 " |
| 4 x 3/8 | 1,092 | 1,934 " — 9.67 " | 1 1/2 x 1/4 | 6,000 | 352 " — 1.76 " |
| 3 1/2 x 3/8 | 1,200 | 1,760 " — 8.80 " | 1 1/4 x 1/4 | 7,920 | 266 " — 1.33 " |
| 3 x 3/8 | 1,342 | 1,574 " — 7.87 " | | | |

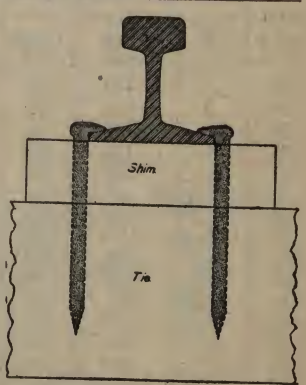
NOTE:—The above is given as approximate, and Company is not to be bound in any way to protect these figures.

## Shimming Spikes

These spikes are used for fastening rails on trestle work where the spike is to be driven through a stringer (shim) into the tie beneath.

The orders for these spikes generally specify 7 in. or 8 in. long x 9/16 in. square.

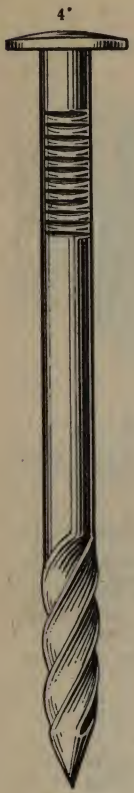
Price.....Base Price of Railroad Spike

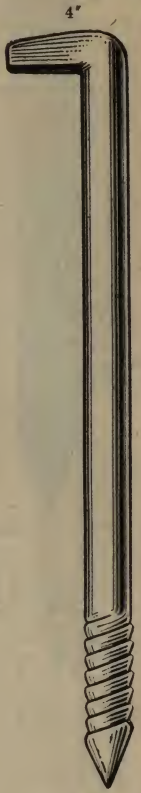



| Size, Measured Under Head | Approximate Number per Keg |
|---|---|
| 7 x 9/16 | 278 |
| 8 x 9/16 | 240 |

Reversed points, ¼c. per pound extra.
Other than regular sizes shown above can be furnished at a slight extra charge.
Packed in strong, well-made kegs of 200 lbs. each.
These spikes are driven mostly in hard timbers and it stands to reason that a spike with a clean-cut, sharp, chisel point will facilitate the work.
Our process of manufacture insures a product that has all the essential features necessary in a spike that will drive easily and hold well after driven.
The proper stock is used to make spikes that will drive straight and true, and our product runs uniform as to lengths and gauges. Heads will not fly off.
For a first-class job in track, bridge or trestle work use AMERICAN STEEL & WIRE COMPANY *Railroad and Shimming Spikes.*

# Pole Steps




### Data Concerning Telephone and Telegraph Poles

| Length of Pole Feet | Diameter 6 Inches from Butt, Inches | Diameter at Top Inches | Depth Pole Should be Placed in Ground, Feet |
|---|---|---|---|
| 25 | 9 to 10 | 6 to 8 | 5 |
| 30 | 9 to 11 | 6 to 8 | 5½ |
| 35 | 9 to 12 | 6 to 8 | 5½ |
| 40 | 9 to 13 | 6 to 8 | 6 |
| 45 | 9 to 14 | 6 to 8 | 6½ |
| 50 | 9 to 15 | 6 to 8 | 7 |
| 55 | 16 to 17 | 6 to 8 | 7½ |
| 60 | 16 to 18 | 6 to 8 | 7½ |
| 65 | 16 to 19 | 6 to 8 | 8 |
| 70 | 16 to 20 | 6 to 8 | 8 |
| 75 | 16 to 21 | 6 to 8 | 8½ |
| 80 | 16 to 22 | 6 to 8 | 9 |

### Sizes and Weights of White Cedar Poles

(Northwestern Cedarmen's Association specifications)

**Description**

| Length Feet | Top Diam. Inches | Weight Pounds | Length Feet | Top Diam. Inches | Weight Pounds |
|---|---|---|---|---|---|
| 20 | 4 | 100 | 45 | 6 | 900 |
| 20 | 5 | 130 | 45 | 7 | 1,100 |
| 20 | 6 | 190 | 45 | 8 | 1,350 |
| 25 | 4 | 150 | 50 | 6 | 1,150 |
| 25 | 5 | 200 | 50 | 7 | 1,350 |
| 25 | 6 | 250 | 50 | 8 | 1,700 |
| 25 | 7 | 350 | 55 | 6 | 1,350 |
| 30 | 5 | 275 | 55 | 7 | 1,700 |
| 30 | 6 | 350 | 55 | 8 | 2,200 |
| 30 | 7 | 450 | 60 | 6 | 1,700 |
| 30 | 8 | 575 | 60 | 7 | 2,200 |
| 35 | 5 | 375 | 60 | 8 | 2,500 |
| 35 | 6 | 450 | 65 | 6 | 2,200 |
| 35 | 7 | 600 | 65 | 7 | 2,500 |
| 35 | 8 | 850 | 65 | 8 | 3,000 |
| 40 | 6 | 625 | 70 | 6 | 2,500 |
| 40 | 7 | 850 | 70 | 7 | 3,000 |
| 40 | 8 | 1,100 | 70 | 8 | 4,000 |

| Sizes | Approximate Weight per 100 Pole Step | |
|---|---|---|
| | Plain | Galvanized |
| 8 x⅝ inch | 73 pounds | 75 pounds |
| 9 x⅝ inch | 78 pounds | 81 pounds |
| 10 x⅝ inch | 85 pounds | 88 pounds |
| 10½x⅝ inch | 89 pounds | 93 pounds |
| 8½x$\frac{9}{16}$ inch | 58 pounds | 61 pounds |
| 9 x$\frac{9}{16}$ inch | 62 pounds | 65 pounds |
| 10½x$\frac{9}{16}$ inch | 71 pounds | 74 pounds |
| 9 x½ inch | 51 pounds | 54 pounds |

For the use of electric light, street railway and telephone companies.

The above are with our regular spike and button heads.

Lengths given are measurements over all.

Each step carefully threaded with screw thread.

Special shapes or lengths of heads made to order.

A keg of pole steps weighs about 200 pounds.

# Wire Staples

## Ribbon Wire Staples

For stapling flat twisted ribbon wire. Cut from No. 9 wire in 1½ in., 1¾-in. and 2-in. lengths. Price same as fence staples.


Illustration actual size

## Metal Lath Staples

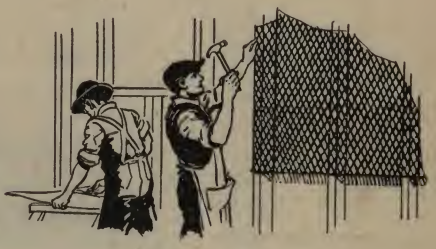

Illustration actual size

Furnished in Standard sizes, 1 in., 1⅛ in., 1¼ in., and 1½ in. No. 14 gauge. Principal demand is for 1 in.

Furnished in following finishes: BLUED, POLISHED or GALVANIZED.

NOTE: Blued staples packed in paper lined kegs are considered Standard and will be furnished unless otherwise specified. This finish usually called for because lathers carry in mouth, and process of manufacture insures a sanitary product, free from grease and dirt. There is a growing demand for this style staple same as for sterilized blued lath nails.

Price upon application.



## Galvanized Hoop Staples

### Used for Putting on Wire Hoops

| Full Size No. 14 Gauge Wire | Number of Gavanized Wire Hoops Staples to the pound |
|---|---|
| ½ in. ⅝ in. | |
| ⅝ inch, No. 14 | 568 |
| ½ inch, No. 14 | 610 |

Price upon application.

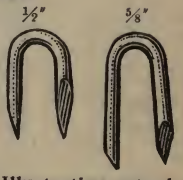



Illustration actual size

## Poultry Netting Staples

### Galvanized

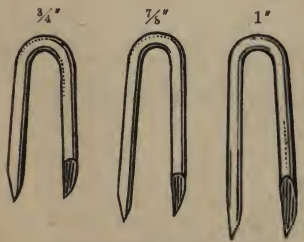



Illustration actual size

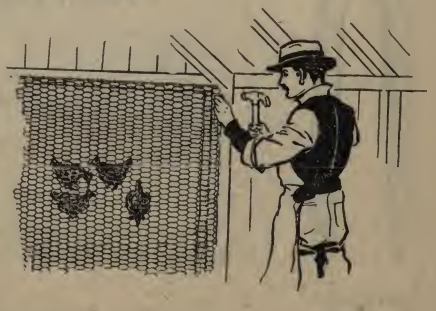
Packed in 100-lb. kegs; 50, 25, 10 and 5-lb. wooden boxes; 5 and 10-lb. paper boxes, and ½ and 1-lb. papers.

All 5 and 10-lb. paper packages are packed in wooden boxes for shipment.

**Number of Poultry Netting Staples to the Pound**

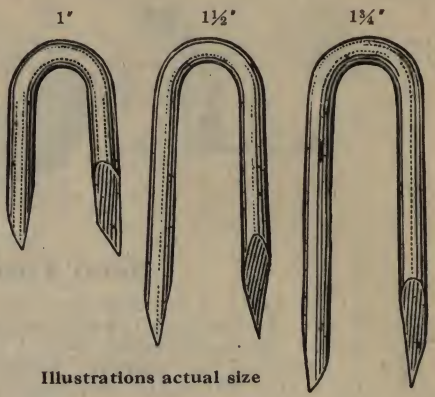
¾ inch, No. 14 . . 480
⅞ inch, No. 14 . . 416
1 inch, No. 14 . . 352

Price upon application.



# Wire Staples

## Fence Staples




Illustrations actual size

| Length | Approximate No. to Lb. No. 9 |
|---|---|
| ¾ | 152 |
| ⅞ | 120 |
| 1 | 108 |
| 1⅛ | 96 |
| 1¼ | 87 |
| 1½ | 72 |
| 1¾ | 65 |
| 2 | 58 |
| 2¼ | 47 |
| 2½ | 40 |

**Annealed, Polished or Galvanized**

Made of No. 9 gauge wire.....base price.
Made of No. 8 gauge wire or coarser.....25 cts. per 100 lbs. extra.
Made of No. 10 gauge wire.....10 cts. per 100 lbs. extra.
Made of No. 11 gauge wire.....20 cts. per 100 lbs. extra.
Made of No. 12 gauge wire.....35 cts. per 100 lbs. extra.
Made of No. 13 gauge wire.....50 cts. per 100 lbs. extra.

Staples longer than 2½ inches and up to 3 inches, 50 cts. per 100 lbs., extra. Cannot furnish staples longer than 3 inches.

Annealed staples same price as polished.

Barbed staples, all lengths and gauges, 25 cts. per 100 lbs., extra.

Oiling staples, 15 cts. per 100 lbs., extra.

Illustration actual size

## Steel Fence Post Staples

Usually made in 1½-inch length of No. 10 gauge wire, with 3/16-inch spread.

**Bright or Galvanized**

These staples are placed in punched holes of steel fence posts and points are clinched on the opposite side.

Price upon application.

# Approximate Number of Wire Nails per Pound

| American Steel & Wire Co.'s Steel Wire Gauge | LENGTH | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3/16 | 1/4 | 3/8 | 1/2 | 5/8 | 3/4 | 7/8 | 1 | 1 1/8 | 1 1/4 | 1 1/2 | 1 3/4 | 2 | 2 1/4 | 2 1/2 | 2 3/4 | 3 | 3 1/2 | 4 | 4 1/2 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 3/8 | ..... | ..... | ..... | ..... | ..... | ..... | .... | 29 | 26 | 23 | 20 | 17 | 15 | 15 | 12 | 11 | 11 | 8.9 | 7.9 | 7.1 | 6.4 | 5.2 | 4.5 | 4.0 | 3.4 | 3.2 | 2.9 | 2.7 |
| 5/16 | ..... | ..... | ..... | ..... | ..... | ..... | .... | 43 | 38 | 34 | 29 | 25 | 22 | 20 | 18 | 16 | 15 | 13 | 11 | 10 | 9.0 | 7.6 | 6.5 | 5.7 | 5.0 | 4.5 | 4.1 | 3.8 |
| 1 | ..... | ..... | ..... | ..... | ..... | ..... | .... | 47 | 44 | 40 | 34 | 29 | 26 | 23 | 21 | 20 | 18 | 16 | 14 | 12 | 11 | 9.3 | 8.0 | 7.0 | 6.3 | 5.7 | 5.2 | 4.7 |
| 2 | ..... | ..... | ..... | ..... | ..... | ..... | .... | 60 | 54 | 48 | 41 | 35 | 31 | 28 | 25 | 23 | 21 | 18 | 16 | 14 | 13 | 11 | 9.3 | 8.1 | 7.2 | 6.6 | 6.1 | 5.6 |
| 3 | ..... | ..... | ..... | ..... | ..... | ..... | .... | 67 | 60 | 55 | 47 | 41 | 36 | 32 | 29 | 27 | 25 | 21 | 18 | 16 | 15 | 12 | 11 | 9.4 | 8.3 | 7.6 | 7.1 | 6.6 |
| 4 | ..... | ..... | ..... | ..... | ..... | ..... | .... | 81 | 74 | 66 | 55 | 48 | 41 | 37 | 34 | 31 | 29 | 25 | 22 | 20 | 18 | 15 | 13 | 11 | 9.8 | 8.9 | 8.1 | 7.5 |
| 5 | ..... | ..... | ..... | ..... | ..... | ..... | .... | 90 | 81 | 74 | 61 | 52 | 45 | 41 | 38 | 35 | 32 | 28 | 24 | 22 | 21 | 18 | 16 | 14 | 12 | 12 | 11 | 9.6 |
| 6 | ..... | ..... | ..... | 213 | 174 | 149 | 128 | 113 | 101 | 91 | 76 | 65 | 58 | 52 | 47 | 43 | 39 | 34 | 29 | 26 | 24 | 20 | 18 | 16 | 15 | 13 | 11 | 11 |
| 7 | ..... | ..... | ..... | 250 | 205 | 174 | 148 | 132 | 120 | 110 | 92 | 78 | 70 | 61 | 55 | 51 | 47 | 40 | 35 | 31 | 28 | 24 | 19 | 18 | 16 | 14 | 13 | 12 |
| 8 | ..... | ..... | ..... | 272 | 238 | 198 | 174 | 153 | 139 | 126 | 106 | 93 | 82 | 74 | 66 | 61 | 56 | 48 | 42 | 38 | 34 | 28 | 24 | 21 | 19 | 17 | 15 | 14 |
| 9 | ..... | ..... | ..... | 348 | 286 | 238 | 213 | 185 | 170 | 152 | 128 | 112 | 99 | 87 | 79 | 71 | 67 | 58 | 50 | 45 | 41 | 34 | 29 | 25 | 23 | 21 | 19 | 17 |
| 10 | ..... | ..... | ..... | 469 | 373 | 320 | 277 | 242 | 216 | 196 | 165 | 142 | 124 | 111 | 100 | 91 | 84 | 71 | 62 | 55 | 49 | 42 | 36 | 31 | 27 | 25 | 23 | 21 |
| 11 | ..... | ..... | ..... | 510 | 417 | 366 | 323 | 285 | 254 | 233 | 200 | 171 | 149 | 136 | 122 | 111 | 103 | 87 | 77 | 69 | 61 | 52 | 44 | 39 | 35 | 31 | 29 | 26 |
| 12 | ..... | ..... | ..... | 740 | 603 | 511 | 442 | 397 | 351 | 327 | 268 | 229 | 204 | 182 | 161 | 149 | 137 | 118 | 103 | 95 | 87 | 71 | 63 | 56 | 50 | 45 | 40 | 36 |
| 13 | ..... | ..... | 1356 | 1017 | 802 | 688 | 590 | 508 | 458 | 412 | 348 | 297 | 260 | 232 | 209 | 190 | 175 | 153 | 138 | 123 | 110 | 93 | .... | .... | .... | .... | .... | .... |
| 14 | ..... | 2293 | 1664 | 1290 | 1037 | 863 | 765 | 667 | 586 | 536 | 459 | 398 | 350 | 312 | 278 | 256 | 233 | 201 | 176 | 157 | 140 | 117 | .... | .... | .... | .... | .... | .... |
| 15 | ..... | 2899 | 2213 | 1619 | 1316 | 1132 | 971 | 869 | 787 | 694 | 578 | 501 | 437 | 390 | 351 | 317 | 290 | 246 | 220 | 196 | 177 | 145 | .... | .... | .... | .... | .... | .... |
| 16 | ..... | 3932 | 2720 | 2142 | 1708 | 1414 | 1229 | 1099 | 973 | 872 | 739 | 635 | 553 | 496 | 452 | 410 | 370 | 318 | 277 | 248 | 226 | .... | .... | .... | .... | .... | .... | .... |
| 17 | ..... | 5316 | 3890 | 2700 | 2306 | 1904 | 1581 | 1409 | 1253 | 1139 | 956 | 831 | 746 | 666 | 590 | 532 | 486 | 418 | 360 | 322 | 295 | .... | .... | .... | .... | .... | .... | .... |
| 18 | ..... | 7520 | 5072 | 3824 | 3130 | 2608 | 2248 | 1976 | 1760 | 1590 | 1338 | 1150 | 996 | 890 | 820 | 740 | 680 | 585 | 507 | 448 | 412 | .... | .... | .... | .... | .... | .... | .... |
| 19 | ..... | 9920 | 6860 | 5075 | 4132 | 3508 | 2816 | 2556 | 2284 | 2096 | 1772 | 1590 | 1390 | 1205 | 1060 | 970 | 895 | 800 | ..... | ..... | ..... | .... | .... | .... | .... | .... | .... | .... |
| 20 | 18620 | 14050 | 9432 | 7164 | 5686 | 4795 | 4230 | 3596 | 3225 | 2893 | 2412 | 2070 | 1810 | 1620 | 1450 | 1315 | 1215 | 1035 | ..... | ..... | ..... | .... | .... | .... | .... | .... | .... | .... |
| 21 | 23260 | 17252 | 12000 | 8920 | 7232 | 6052 | 5272 | 4576 | 4020 | 3640 | 3040 | 2665 | 2310 | 2020 | 1830 | .... | .... | ..... | ..... | ..... | ..... | .... | .... | .... | .... | .... | .... | .... |
| 22 | 28528 | 21508 | 14676 | 11776 | 9276 | 7672 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | .... | .... | .... | .... | .... | .... | .... |
| 23 | 35864 | 27039 | 18026 | 13519 | 10815 | 9013 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | .... | .... | .... | .... | .... | .... | .... |
| 24 | 44936 | 34018 | 22678 | 17008 | 13607 | 11339 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | .... | .... | .... | .... | .... | .... | .... |
| 25 | 57357 | 43243 | 28828 | 21622 | 17297 | 14414 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | .... | .... | .... | .... | .... | .... | .... |

These approximate numbers are an *Average* only, and the figures given may be varied either way, by changes in the dimensions of the heads or points. Brads and no-head nails will run more to the pound than table shows, and large or thick-headed nails will run less.

# Twisted Barbless Ribbon and Coiled Spring Steel Fence Wire

## Twisted Barbless Wire, Galvanized, Painted or Annealed

Regularly furnished wound on barbed wire reels in catch weights. Galvanized 2 ply 12½ also furnished on 80-rod spools.

Regularly made in following sizes:

| | |
|---|---|
| 2 ply, No. 11, 12 and 12½ | Same price as American Glidden Barb Wire |
| 2 ply, Nos. 8, 9 and 10 | $0.15 per 100 lbs. extra |
| 2 ply, Nos. 13 and 14 | .30 advance over base |
| 3 and 4 ply, Nos. 8, 9 and 10 | .40 advance over base |
| 3 and 4 ply, Nos. 11, 12 and 12½ | .25 advance over base |
| 3 and 4 ply, Nos. 13 and 14 | .55 advance over base |

Above sizes are regularly made, but other styles can be furnished, prices upon application.

## Galvanized Flat Twisted Ribbon Wire

Made from ½ inch No. 17 gauge wire and extra galvanized. Weight approximately 9 feet to the pound. Put up in catch weight bundles.

This material usually purchased for fencing blooded stock and high grade horses, also used for fencing purposes by parks and cemeteries.

Price upon application.

## Galvanized Coiled Spring Steel Fence Wire

Made in sizes 7 to 12, inclusive.

Put up regularly in catch weight bundles, but can also be furnished in even 100 pound bundles without extra charge.

This coiled wire is used for making fences in various forms. We put into this wire the best stock, and it is so coiled that it will retain its springiness against all expansion and contraction due to weather conditions.

| Gauge | Ft. per Lb. |
|---|---|
| No. 7 | 11 |
| No. 8 | 13.33 |
| No. 9 | 16.7 |
| No. 10 | 20 |
| No. 11 | 24.61 |
| No. 12 | 32 |

Price upon application.

# Plain, Brace, Stone and Market Wires

## Plain Wire

**Annealed or Galvanized Finish in Bundles**

**Extras Over Base**

| SIZES American Steel & Wire Company's STEEL WIRE GAUGE | For Size | For Galvanized Wire Add to Extra for Size |
|---|---|---|
| Nos. 6 to 9 | Base | $0.50 |
| No. 10 | $0.05 | .50 |
| No. 11 | .10 | .50 |
| No. 12 and 12½ | .15 | .50 |
| No. 13 | .25 | .50 |
| No. 14 | .35 | .50 |
| No. 15 | .45 | .85 |
| No. 16 | .55 | .85 |

Even Weight Bundles, 5 cents per bundle extra, except 100-lb. bundles, which are considered standard and take no extra charge.

## Galvanized Brace Wire

Furnished only of No. 8 gauge wire, in 5-lb. coils, packed 20 coils to the bundle of 100 lbs.
Sold in even 100-lb. quantities or multiples thereof, at 50 cents per 100 lbs. advance over price of No. 8 galvanized plain wire which is shown above.


## Stone Wire

Made in sizes No. 16 gauge and finer. Bright, Annealed, Galvanized, Tinned and Coppered finishes.
Put up in 8-inch inside diameter coils, weighing 12 pounds each and paper wrapped.

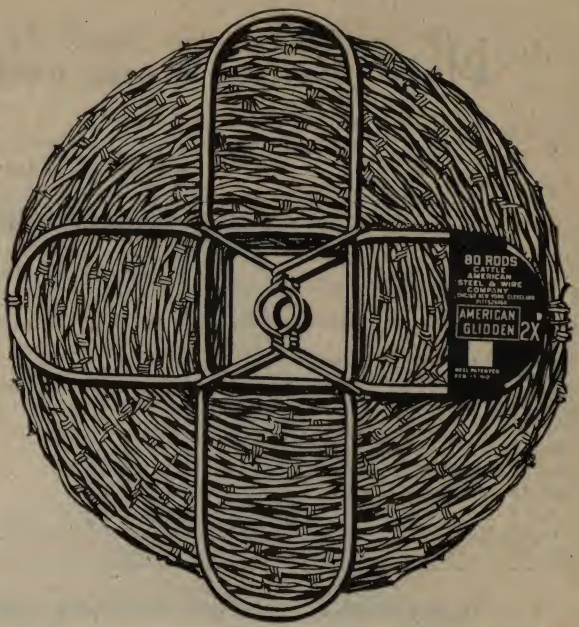
Price upon application.

## Market Wire

Made in sizes No. 18 gauge and **coarser.**
Bright, Annealed, Galvanized, Coppered and Tinned finishes.
Standard weight of bundles, 100 lbs. each.

Price upon application.

# American Barbed Wire




WE are the originators of barbed wire, and our mills making it today are the same ones first employed to produce it. Barbed wire is one of the most practical of inventions and its claim for extensive usage is based upon its utility, low cost and durability.

From the first we have maintained these three factors at the highest point, keeping pace with the ever-increasing efficiency in wire making and galvanizing.

Our brands of American Barbed Wire are known throughout the world to be unequaled for qualities *uniformly* to be relied upon: tensile strength by the employment of the highest quality steel for the purpose; regularity of twist, firmness, and sharpness of barbs by the employment of experienced supervision and the most modern and efficient machinery; excellent galvanizing, uniform winding on steel reels, patented and exclusively used by us.

All brands of barbed wire made by us are plainly stenciled with the brand and registered trade marks. Customers who want good quality should insist on getting our well-known brands. Our motto is "KEEP UP THE QUALITY."

We guarantee full weight for the Catch Weight Reels and full length for the 80 Rod spools.

Ask for and insist on getting any of the old reliable brands illustrated and described on the following pages.

SPECIAL GALVANIZED BARBED WIRE. In addition to furnishing our different brands of barbed wire, either painted or galvanized, we will also furnish the same brands special galvanized, of same quality of galvanizing as our telephone and telegraph wire.




These are the long-used and established trade marks on our special brands of American Barbed Wire. Each in its own field stands for quality and excellence.

Carrier Closed

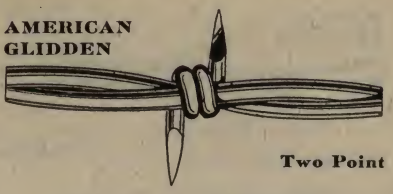
**Barbed Wire Carrier**

This carrier is made of ¾-inch round steel thoroughly jointed. Measures 13 inches long, closed. Weight, 2¼ lbs. Handy for carrying reels of barbed wire.

Carrier Open

# American Barbed Wire—Continued

## American Glidden Two Point (Two Prongs)




**Galvanized or Painted**

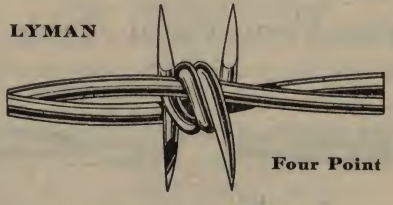
**Catch Weight or 80 Rod Spools**

The popular brand in all sections and for all general hog and cattle fence purposes — has many imitations, but no equal. If you want Glidden pattern insist on AMERICAN GLIDDEN.

CATCH WEIGHT REELS sold by weight, range from 95 to 110 lbs. in weight.
Made in Thickset or Hog wire, barbs about 3 inches apart.
Made in Regular or Cattle wire, barbs about 5 inches apart.
Main Strands of No. 12 steel wire gauge.
Round Barbs of No. 14 steel wire gauge wrapped twice around one of the main strands.

80 ROD SPOOLS sold at a price per spool, and guaranteed to contain full 80 rods.
Specifications same as Catch Weight Reels except the main strands are made of No. 12½ gauge.

## Lyman Four Point (Four Prongs)




**Galvanized or Painted**

**Catch Weight or 80 Rod Spools**

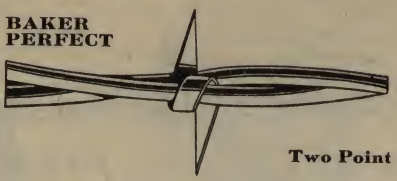
One of the oldest brands of barb wire on the market — the best barb wire to use when a strong, heavy barb wire fence is required. Is an effective barrier against hogs and all kinds of stock. Easily seen by animals on account of the larger size barbs.

CATCH WEIGHT REELS sold by weight, and range from 95 to 110 lbs. in weight.
Thickset or Hog wire, barbs about 4 inches apart.
Regular or Cattle wire, barbs about 6 inches apart.
Main strands of No. 12 steel wire gauge.
Round barbs of No. 14 steel wire gauge.
Each barb has one wrap around one main strand and one wrap around both main strands.

80 ROD SPOOLS sold at a price per spool and guaranteed to contain full 80 rods.
Specifications same as Catch Weight Reels except the main strands are made of No. 12½ gauge.

# American Barbed Wire—Continued

## Baker Perfect Two Point (Two Prongs)




**Galvanized or Painted**

**Catch Weight or 80 Rod Spools**

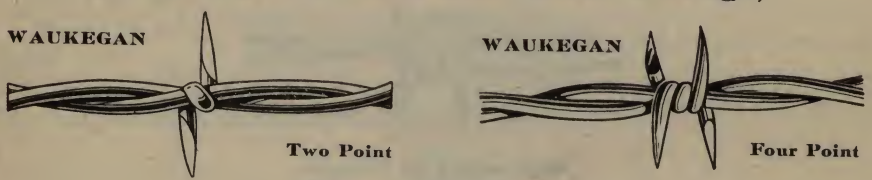
A very popular brand which has stood the test for 30 years, and is a strong favorite wherever used. The flat barbs hold firmly in place and show up sharp and clear.

There are many *so-called* Baker brands on the market, but only one genuine and original Baker Perfect. If you want the genuine, order BAKER PERFECT, and look for the registered trade mark on the spools.

CATCH WEIGHT REELS sold by weight, and range from 95 to 110 lbs. in weight.
80 ROD SPOOLS sold at a price per spool, and guaranteed to contain full 80 rods.

Thickset or Hog, barbs about 3 inches apart.
Regular or Cattle wire, barbs about 5 inches apart.
Main strands No. 12½ steel wire gauge.
Flat barbs wrapped once around one of the main strands.

## Waukegan Two Point (Two Prongs)
## Waukegan Four Point (Four Prongs)




**Galvanized or Painted**

**Catch Weight or 80 Rod Spools**

Put up on *red spools* under the registered trade mark "WAUKEGAN CHIEF." Indian head stamped on every spool. Universally recognized as the most perfect barb wire made. If you want the best, order the WAUKEGAN on *red spools* with Indian head.

CATCH WEIGHT REELS sold by weight and range from 95 to 110 lbs. per spool.
80 ROD SPOOLS sold at a price per spool and guaranteed to contain full 80 rods.

Thickset or Hog wire, barbs about 3 inches apart.
Regular or Cattle wire, barbs about 5 inches apart.
Main strands of No. 12½ steel wire gauge.
Barbs are half round and each barb is wrapped once around the main strands. This makes a single wrap for the 2 point wire and a double wrap for the 4 point.

# American Barbed Wire—Continued

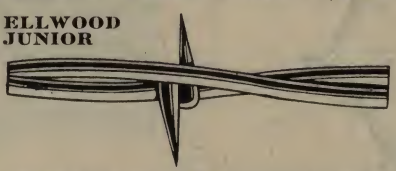
## Ellwood Glidden Two Point (Two Prongs)


**Galvanized or Painted**
**Catch Weight or 80 Rod Spools**

This is the original "GENUINE GLIDDEN." Always sold under the Diamond "E" trade mark. Look for this trade mark on the spool when you buy this old, reliable brand.

CATCH WEIGHT REELS sold by weight and range from 95 to 110 lbs. in weight.
80 ROD SPOOLS sold at a price per spool, and guaranteed to contain full 80 rods.
Thickset or Hog wire, barbs about 3 inches apart.
Regular or Cattle wire, barbs about 5 inches apart.
Main strands of No. 12½ steel wire gauge.
Round barbs of No. 14 steel wire gauge wrapped twice around one of the main strands.

## Ellwood Junior Two Point (Two Prongs)

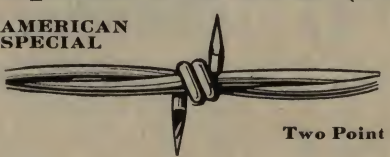



**Made Only at DeKalb, Illinois, Mills**
**Galvanized or Painted**

Made with half-round barbs and full strength strands. A good combination for a light weight, yet substantial, barb wire fence. No sacrifice of strength for saving in weight.

CATCH WEIGHT REELS sold by weight and range from 95 to 110 lbs. in weight.
Thickset or Hog wire, barbs about 3 inches apart.
Regular or Cattle wire, barbs about 5 inches apart.
Main strands of No. 12½ steel wire gauge.
Half round barbs wrapped once around one of the main strands.

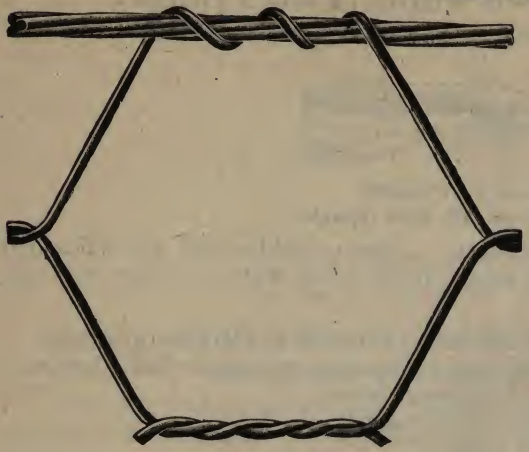
## American Special Two Point (Two Prongs)



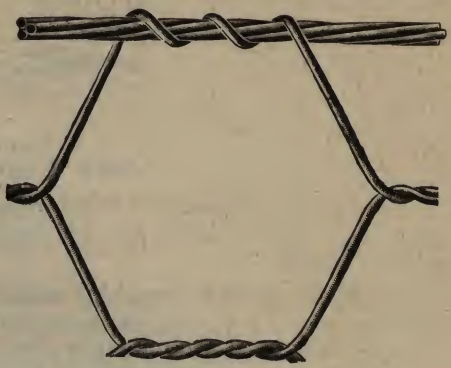

Made in Galvanized only.
Put up only on 80-rod spools.
Thickset or Hog wire, barbs about 3 inches apart.
Regular or Cattle wire, barbs about 5 inches apart.
Main strands of No. 14 steel wire gauge.
Barbs are round and of No. 16 steel wire gauge wrapped twice around one of the main strands.

# American Hexagon Poultry Netting

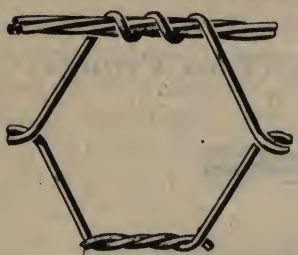
**Actual Sizes**



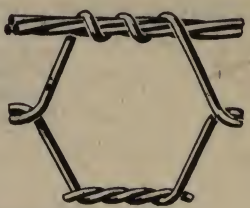
2-inch



1½-inch



1-inch



¾-inch

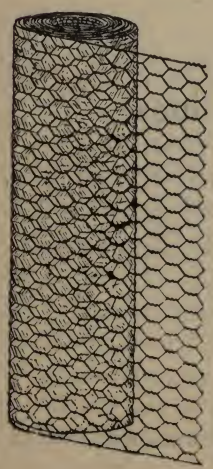
**Galvanized Before Weaving. Galvanized After Weaving**

In ordering specify width, size of mesh, gauge of wire and whether galvanized before or galvanized after weaving is wanted.

Carried in stock, all widths, 12 to 72 inches.

In rolls of 150 lineal feet.

Special widths up to 96 inches made to order.



**List Price on One Roll 150 Feet Long**

| Inches Wide | | 12″ | 18″ | 24″ | 30″ | 36″ | 42″ | 48″ | 60″ | 72″ |
|---|---|---|---|---|---|---|---|---|---|---|
| Mesh | Wire | | | | | | | | | |
| 2″ | No. 16 | $4.95 | $7.12 | $9.08 | $10.83 | $12.38 | $14.44 | $16.50 | $20.63 | $24.75 |
| 2″ | No. 18 | ..... | ..... | 5.78 | ..... | 7.88 | ..... | 10.50 | 13.13 | 15.75 |
| 2″ | No. 19 | 2.48 | 3.56 | 4.54 | 5.42 | 6.19 | 7.22 | 8.25 | 10.32 | 12.38 |
| 2″ | No. 20 | 2.14 | 3.08 | 3.92 | 4.68 | 5.35 | 6.24 | 7.13 | 8.91 | 10.69 |
| 1½″ | No. 16* | ..... | ..... | 14.85 | 17.72 | 20.25 | 23.63 | 27.06 | 33.75 | 40.50 |
| 1½″ | No. 18* | ..... | ..... | 9.08 | 10.83 | 12.38 | 14.44 | 16.50 | 20.63 | 24.75 |
| 1½″ | No. 19 | 3.60 | 5.18 | 6.60 | 7.88 | 9.00 | 10.50 | 12.00 | 15.00 | 18.00 |
| 1½″ | No. 20 | 3.15 | 4.53 | 5.78 | 6.90 | 7.88 | 9.19 | 10.50 | 13.13 | 15.75 |
| 1″ | No. 19 | 6.30 | 9.06 | 11.55 | 13.79 | 15.75 | 18.38 | 21.00 | 26.25 | 31.50 |
| 1″ | No. 20 | 4.95 | 7.12 | 9.08 | 10.83 | 12.38 | 14.44 | 16.50 | 20.63 | 24.75 |
| ¾″ | No. 20 | 8.55 | 12.30 | 15.68 | 18.71 | 21.38 | 24.94 | 28.50 | 35.63 | 42.75 |
| Square Feet in One Roll | | 150 | 225 | 300 | 375 | 450 | 525 | 600 | 750 | 900 |

*1½-inch No. 16 and No. 18 Galvanized after Weaving only.

This list includes all kinds of netting regularly manufactured. Special prices will be quoted on other kinds made to order.

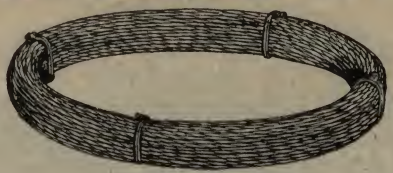
American Poultry Netting is made from specially selected steel.

Fabricated and galvanized by the latest improved processes.

Rolls are compact, save space in shipping and storage.

Rolls out flat and stretches up even. Guaranteed full length, 150 lineal feet.

# Galvanized Wire Clothes Lines



## HOLLOW CABLE

| No. | Description | Number of Wires | American Steel & Wire Company's STEEL WIRE GAUGE No. | List Price per Dozen Coils 100 ft | 90 ft. | 75 ft. | 60 ft. | 50 ft. | 40 ft. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | 7 | 22 | $5.60 | $5.30 | $4.75 | $4.50 | $3.90 | $3.65 |
| 2 | | 9 | 22 | 6.30 | 6.00 | 5.35 | 5.05 | 4.40 | 4.10 |
| 3 | | 12 | 22 | 7.50 | 7.15 | 6.40 | 6.00 | 5.25 | 4.90 |
| 4 | | 11 | 20 | 9.30 | 8.85 | 7.90 | 7.45 | 6.50 | 6.05 |

## TWISTED

| No. | Description | Number of Wires | American Steel & Wire Company's STEEL WIRE GAUGE No. | List Price per Dozen Coils 100 ft. | 90 ft. | 75 ft. | 60 ft. | 50 ft. | 40 ft. |
|---|---|---|---|---|---|---|---|---|---|
| 16 | | 6 | 16 | $11.70 | $11.00 | $9.95 | $9.35 | $8.20 | $7.60 |
| 17 | | 6 | 17 | 9.00 | 8.55 | 7.65 | 7.20 | 6.30 | 5.85 |
| 18 | | 6 | 18 | 7.20 | 6.85 | 6.10 | 5.75 | 5.05 | 4.70 |
| 19 | | 6 | 19 | 6.00 | 5.70 | 5.10 | 4.80 | 4.20 | 3.90 |
| 20 | | 6 | 20 | 5.30 | 5.05 | 4.50 | 4.25 | 3.70 | 3.45 |

## SOLID

| No. | Description | Number of Wires | American Steel & Wire Company's STEEL WIRE GAUGE No. | List Price per Dozen Coils 100 ft. | 90 ft. | 75 ft. | 60 ft. | 50 ft. | 40 ft. |
|---|---|---|---|---|---|---|---|---|---|
| 8 | | 1 | 8 | $10.40 | $9.90 | $8.85 | $8.30 | $7.30 | $6.75 |
| 9 | | 1 | 9 | 9.00 | 8.55 | 7.65 | 7.20 | 6.30 | 5.85 |
| 10 | | 1 | 10 | 7.80 | 7.40 | 6.60 | 6.20 | 5.45 | 5.00 |

## TWISTED AND HOLLOW CABLE WIRE CLOTHES LINES ON REELS
**List Price Per Reel**

| No. | 500 ft. | 1000ft. | 1500ft. | 2000 ft. | 2500 ft. | 3000 ft. | 4000 ft. | No. | 500 ft. | 1000 ft. | 1500 ft. | 2000 ft. | 2500 ft. | 3000 ft. | 4000 ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | $2.95 | $5.60 | $8.00 | $10.60 | $12.95 | $15.10 | $20.20 | 16 | $6.25 | $11.70 | $16.60 | $22.20 | $27.00 | $31.60 | $42.10 |
| 2 | 3.30 | 6.30 | 9.00 | 12.00 | 14.60 | 17.00 | 22.70 | 17 | 4.80 | 9.00 | 12.80 | 17.10 | 20.80 | 24.30 | 32.40 |
| 3 | 3.95 | 7.50 | 10.70 | 14.25 | 17.30 | 20.25 | 27.00 | 18 | 3.80 | 7.20 | 10.30 | 13.70 | 16.70 | 19.50 | 25.90 |
| 4 | 4.90 | 9.30 | 13.25 | 17.70 | 21.50 | 25.10 | 33.50 | 19 | 3.20 | 6.00 | 8.60 | 11.40 | 13.90 | 16.20 | 21.60 |
| | | | | | | | | 20 | 2.80 | 5.30 | 7.60 | 10.00 | 12.30 | 14.30 | 19.10 |

| Sizes No. | Estimated Average Weight in Pounds per Dozen 100 Feet | 90 Feet | 75 Feet | 60 Feet | 50 Feet | Estimated Average Number of Dozen to Barrel 100 Feet | 90 Feet | 75 Feet | 60 Feet | 50 Feet |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18 | 16 | 14 | 11 | 9 | 12 | 12 | 15 | 21 | 24 |
| 2 | 22 | 20 | 17 | 13 | 11 | 8 | 8 | 12 | 14 | 16 |
| 3 | 30 | 27 | 23 | 18 | 15 | 6 | 6 | 8 | 11 | 12 |
| 4 | 42 | 38 | 32 | 25 | 21 | 5 | 5 | 8 | 9 | 10 |
| 16 | 75 | 67 | 56 | 45 | 38 | 5 | 6 | 8 | 8 | 10 |
| 17 | 56 | 50 | 42 | 34 | 28 | 5 | 5 | 6 | 7 | 8 |
| 18 | 46 | 41 | 35 | 27 | 24 | 6 | 6 | 7 | 7 | 10 |
| 19 | 35 | 31½ | 25 | 21 | 17 | 8 | 8 | 10 | 12 | 15 |
| 20 | 25 | 22½ | 20 | 15 | 13 | 10 | 10 | 12 | 14 | 18 |
| * 8 | 84 | 76 | 63 | 50 | 42 | 4½ | 5 | 6 | 7 | 8 |
| * 9 | 70 | 63 | 52 | 42 | 35 | 5½ | 6 | 7 | 8 | 9 |
| *10 | 58 | 52 | 43 | 35 | 29 | 6½ | 7 | 8 | 9 | 10 |

* Nos. 8, 9 and 10 are solid lines (one wire)

† American Steel & Wire Co.'s Steel Wire Gauge


Packed in kegs with red heads.

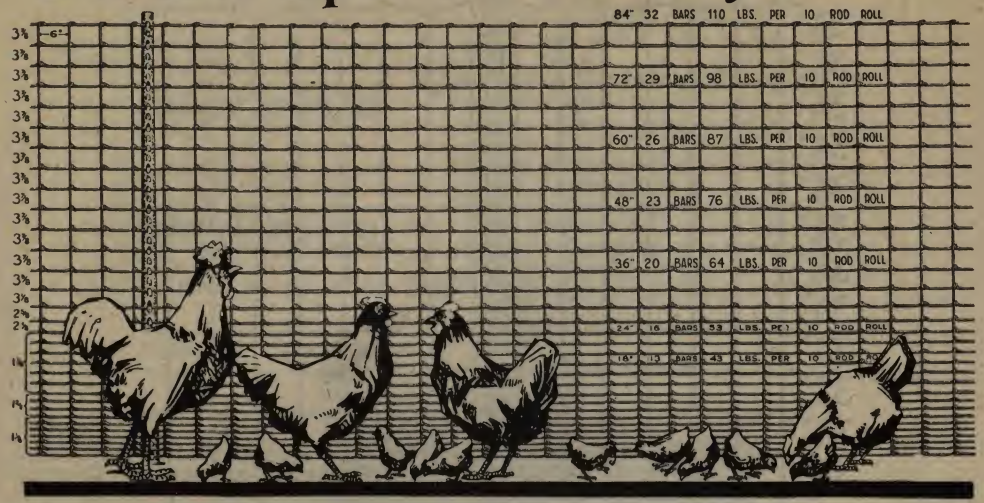
Made in all sizes and patterns from the best steel or iron.

The experience of nearly half a century of progressive manufacture is embodied in the Juniata shoe. The product is a shoe thoroughly adapted to all requirements in shape, finish and quality of metal.

Juniata toe and heel calks are made in blunt, country and sharp patterns, in all sizes and dimensions.

Illustrated Catalogue Furnished.

# Banner Special Poultry Fence




Nothing on the market to equal this in a close-spaced, medium-weight poultry fabric. The spacing is just right. The size of wires used makes it strong enough for dividing line fence between poultry yard and pasture, and extra strong for a strictly poultry yard fence.

No top and bottom rail required. Stretches up fine and stands up well. The spacing is close enough to keep out marauding animals and gives absolute protection to all fowls, large or small.

The joints are smooth, perfectly made and cannot slip.

## LIST PRICES

| Design Number | Height in Inches | Number of Bars | Approximate weight in lbs. per 10 Rod Roll | List Price per Rod |
|---|---|---|---|---|
| 1318 | 18 | 13 | 43 | $0.80 |
| 1624 | 24 | 16 | 53 | .90 |
| 2036 | 36 | 20 | 64 | 1.10 |
| 2348 | 48 | 23 | 76 | 1.30 |
| 2660 | 60 | 26 | 87 | 1.50 |
| 2972 | 72 | 29 | 98 | 1.80 |
| 3284 | 84 | 32 | 110 | 2.10 |

## SPECIFICATIONS

Top and bottom horizontal wires or bars, No. 13.

Intermediate horizontal wires or bars, No. 15.

Upright wires or stays, No. 16.

Upright wires or stays, spaced 6 inches apart.

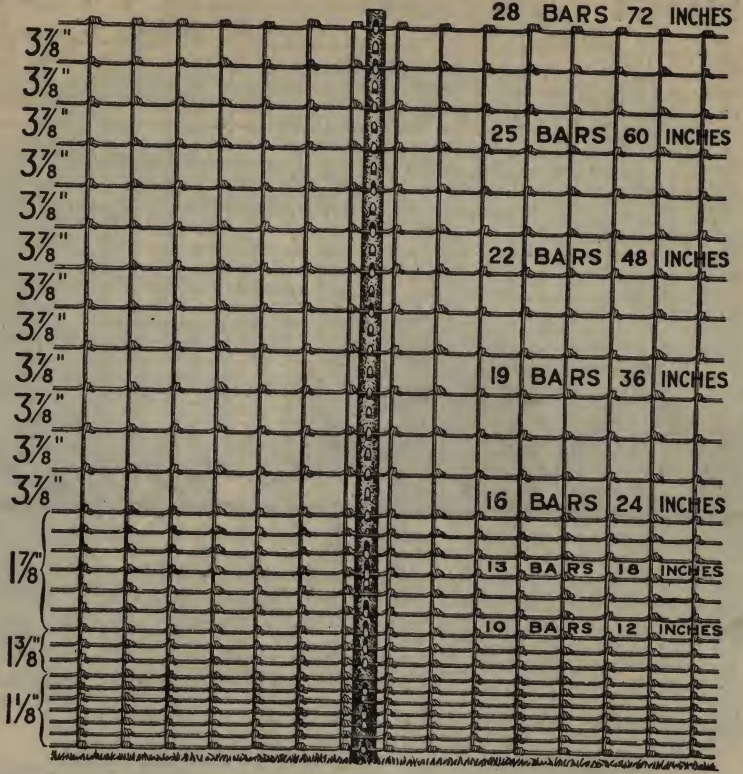
Spacing of horizontals or bars graduated, first six at bottom of fence 1⅛ inches, next three 1⅜ inches, next six 1⅞ inches, next one 2⅛ inches, next one 2⅝ inches, next one 3⅛ inches, next one 3⅝ inches, balance 3⅞ inches.

Rolls of 10 and 20 rods each.

Ten-rod rolls shipped unless otherwise specified.

For illustrated description see catalogue.

# Banner Standard Poultry Fence




BANNER STANDARD POULTRY FENCE is the result of the combined experience of men who have grown up in the steel fence industry. The wires are strong and covered with pure zinc spelter giving it rust-proof and wear-proof qualities and at the same time it is flexible. The close mesh keeps in the smallest fowls. It is made with the strong, smooth, and tight Banner knot and the wires will not slip.

Primarily this is a poultry fence, but it is of sufficiently heavy construction to serve as an effective barrier against ordinary domestic animals and can be used between poultry yard and pasture. It requires no top and bottom rail. It stretches up like a field fence and fewer posts are required.

## LIST PRICES

| Design Number | Height in Inches | Number of Bars | Approximate Weight in Pounds per 10 Rod Roll | List Price per Rod |
|---|---|---|---|---|
| 1012 | 12 | 10 | 22 | $0.44 |
| 1318 | 18 | 13 | 28.5 | .57 |
| 1624 | 24 | 16 | 35.5 | .71 |
| 1936 | 36 | 19 | 43.7 | .88 |
| 2248 | 48 | 22 | 52.6 | 1.05 |
| 2560 | 60 | 25 | 61.4 | 1.23 |
| 2872 | 72 | 28 | 68.3 | 1.40 |
| 3184 | 84 | 31 | 78.6 | 1.57 |

## SPECIFICATIONS

Top and bottom horizontal wires or bars, No. 15.
Intermediate horizontal wires or bars, No. 17.
Upright wires or stays, No. 17.
Upright wires or stays, spaced 4 inches apart.
Spacing of horizontals or bars graduated, first six at bottom of fence 1⅛ inches, next three 1⅜ inches, next six 1⅞ inches, remaining bars 3⅞ inches.

# Miscellaneous Nails and Brads

**Showing Method of Packing in Paper Cartons and Wooden Boxes**
**Also Furnished Packed in 100 pound Kegs**

# Tacks in Paper Cartons Encased

**1 Dozen Each in Paper Boxes. Also Showing Wooden Boxes in which all Display Packages are Packed for Shipment**

# Tacks in "Toy" Barrel Packages

**Also in Attractive Paper Cartons, Both of which are Packed in Shallow Boxes for Display.**



**1 Gross Box**



**½ Gross Box**

Toy barrels, assorted Nos. 6, 8 and 10 tacks packed in gross or ½ gross display cases. polished or blued.



**Packed in Illuminated Wooden Cases Similar to Above**

Illustrated Catalogue Furnished.

# Manual of Carpentry

## Index

# *Wire Nails—Kinds and Quantities Required

| Length, in inches | Am. Steel & Wire Co.'s Steel Wire Gauge | Approx. No. to lbs. | Nailings | Sizes and Kinds of Material | Trade Names | Pounds per 1000 feet B. M. on center as follows: 12″ | 16″ | 20″ | 36″ | 48″ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Pounds | | | | |
| 2½ | 10¼ | 106 | 2 | 1 x 4 | 8d common | 60 | 48 | 37 | 23 | 20 |
| 2½ | 10¼ | 106 | 2 | 1 x 6 | 8d common | 40 | 32 | 25 | 16 | 13 |
| 2½ | 10¼ | 106 | 2 | 1 x 8 | 8d common | 31 | 27 | 20 | 12 | 10 |
| 2½ | 10¼ | 106 | 2 | 1 x 10 | 8d common | 25 | 20 | 16 | 10 | 8 |
| 2½ | 10¼ | 106 | 3 | 1 x 12 | 8d common | 31 | 24 | 20 | 12 | 10 |
| 4 | 6 | 31 | 2 | 2 x 4 | 20d common | 105 | 80 | 65 | 60 | 33 |
| 4 | 6 | 31 | 2 | 2 x 6 | 20d common | 70 | 54 | 43 | 27 | 22 |
| 4 | 6 | 31 | 2 | 2 x 8 | 20d common | 53 | 40 | 53 | 21 | 17 |
| 4 | 6 | 31 | 3 | 2 x 10 | 20d common | 60 | 50 | 40 | 25 | 20 |
| 4 | 6 | 31 | 3 | 2 x 12 | 20d common | 52 | 41 | 33 | 21 | 17 |
| 6 | 2 | 11 | 2 | 3 x 4 | 60d common | 197 | 150 | 122 | 76 | 61 |
| 6 | 2 | 11 | 2 | 3 x 6 | 60d common | 131 | 97 | 82 | 52 | 42 |
| 6 | 2 | 11 | 2 | 3 x 8 | 60d common | 100 | 76 | 61 | 38 | 34 |
| 6 | 2 | 11 | 3 | 3 x 10 | 60d common | 178 | 137 | 110 | 70 | 55 |
| 6 | 2 | 11 | 3 | 3 x 12 | 60d common | 145 | 115 | 92 | 58 | 46 |
| 2½ | 12½ | 189 | 2 | Base, per 100 ft. lin. | 8d finish | ..... | 1 | ..... | ..... | ..... |
| 2½ | 10¼ | 106 | 2 | Byrket lath | 8d common | ..... | 48 | ..... | ..... | ..... |
| 2½ | 12½ | 189 | 1 | Ceiling, ¾ x 4 | 8d finish | 18 | 14 | ..... | ..... | ..... |
| 2 | 13 | 309 | 1 | Ceiling, ½ and ⅝ | 6d finish | 11 | 8 | ..... | ..... | ..... |
| 2½ | 12½ | 189 | 2 | Finish, ⅞ | 8d finish | 25 | 12 | ..... | ..... | ..... |
| 3 | 11½ | 121 | 2 | Finish, 1⅛ | 10d finish | 12 | 10 | ..... | ..... | ..... |
| 2½ | 10 | 99 | 1 | Flooring, 1 x 3 | 8d floor brads | 42 | 32 | ..... | ..... | ..... |
| 2½ | 10 | 99 | 1 | Flooring, 1 x 4 | 8d floor brads | 32 | 26 | ..... | ..... | ..... |
| 2½ | 10 | 99 | 1 | Flooring, 1 x 6 | 8d floor brads | 22 | 18 | ..... | ..... | ..... |
| 4 | 6 | 31 | | Framing, 2 x 4 to 2 x 16 | 20d common | 20 | 16 | 14 | ..... | ..... |
| 3½ | 8 | 49 | | requires 3 or more sizes | 16d common | 10 | 10 | 8 | ..... | ..... |
| 3 | 9 | 69 | | and vary greatly. | 10d common | 8 | 6 | 5 | ..... | ..... |
| 6 | 2 | 11 | | Framing, 3 x 4 to 3 x 14 | 60d common | 30 | 25 | 20 | ..... | ..... |
| 2½ | 11½ | 145 | 2 | Siding, drop, 1 x 4 | 8d casing | 45 | 35 | ..... | ..... | ..... |
| 2½ | 11½ | 145 | 2 | Siding, drop, 1 x 6 | 8d casing | 30 | 25 | ..... | ..... | ..... |
| 2½ | 11½ | 145 | 2 | Siding, drop, 1 x 8 | 8d casing | 23 | 18 | ..... | ..... | ..... |
| 2 | 13 | 309 | 1 | Siding, bevel, ½ x 4 | 6d finish | 23 | 18 | ..... | ..... | ..... |
| 2 | 13 | 309 | 1 | Siding, bevel, ½ x 6 | 6d finish | 15 | 13 | ..... | ..... | ..... |
| 2 | 13 | 309 | 1 | Siding, bevel, ½ x 8 | 6d finish | 12 | 10 | ..... | ..... | ..... |
| | | | | Casing, per opening | 6d and 8d casing. | About ½ pound per side. | | | | |
| 1¼ | 14 | 568 | 12″ o. c. | Flooring, ⅜ x 2 | 3d brads | About 10 pounds per 1000 square feet. | | | | |
| 1⅛ | 15 | 778 | 16″ o. c. | Lath, 48″ | 3d fine | 6 pounds per 1000 pieces. | | | | |
| ⅞ | 12 | 469 | 2″ o. c. | Ready roofing | Barbed roofing | ¾ of a pound to the square. | | | | |
| ⅞ | 12 | 469 | 1″ o. c. | Ready roofing | Barbed roofing | 1½ pounds to the square. | | | | |
| ⅞ | 12 | 180 | 2″ o. c. | Ready roofing (⅝ heads) | American felt roofing | 1½ pounds to the square. | | | | |
| ⅞ | 12 | 180 | 1″ o. c. | Ready roofing (⅝ heads) | American felt roofing | 3 pounds to the square. | | | | |
| 1¼ | 13 | 429 | ..... | Shingles† | 3d shingle | 4½ pounds; about 2 nails to each 4 inches. | | | | |
| 1½ | 12 | 274 | ..... | Shingles | 4d shingle | 7½ pounds; about 2 nails to each 4 inches. | | | | |
| ⅞ | 12 | 180 | 4 | Shingles | American felt roofing | 12 lbs., ⅝″ heads; 4 nails to shingle. | | | | |
| ⅞ | 12 | 469 | 4 | Shingles | Barbed roofing | 4½ lbs., ⅝″ heads; 4 nails to shingle. | | | | |
| 1 | 16 | 1150 | 2″ o. c. | Wall board, around entire edge | 2d Barbed Berry, flat head | 5 pounds, ⅝″ heads; per 1000 square feet. | | | | |
| 1 | 15½ | 1010 | 3″ o. c. | Wall board, intermediate nailings | 2d casing or floor brad | 2½ lbs., ⅝″ heads; per 1000 square feet. | | | | |

I. Used square edge, as platforms, floors, sheathing, or shiplap.

II. When used D. & M., blind nailed, only ½ quantity named required.

†Wood shingles vary in width; asphalt are usually 8 inches wide. Regardless of width 1000 shingles are the equivalent of 1000 pieces 4 inches wide.

## The "Penny" System

The "penny" system of designating nails originated in England. Two explanations are offered as to how this curious designation came about. One is that the six penny, four penny, tenpenny, etc., nails derived their names from the fact that one hundred cost sixpence, fourpence, etc. The other explanation, which is more probable, is that one thousand tenpenny nails, for instance, weighed ten pounds. The ancient as well as modern abbreviation for penny is "d," being first letter of the Roman coin denarius; the same abbreviation in early history was used for the English pound in weight. At any rate, the penny has persisted a s a term in the nail industry.

# Strength of Joists

The table herewith has been carefully calculated by this formula:

$$\text{Safe load} = \frac{2 \times \text{thickness} \times \text{square of width} \times A}{\text{Span in feet}}$$

in which the value of A is 1-18 of the fiber strain or modulus of rupture for safe loads. It is the formula used in modern construction by F. E. Kidder and other noted civil engineers.

## Its Use

What size joists are required in a hay bay 20 feet wide, 40 feet long and 12 feet high, the joists being supported at the ends only? The cubic contents = 20 x 40 x 12 or 9600 cubic feet. At 512 cubic feet to the ton this bay will hold 18¾ tons or 37500 pounds. Supposing the joists to be set 24″ on centers there would be 21 joists and each would have to carry 1-21 of 37500 pounds or 1785 5–7 pounds. Referring to the table the safe load for 1 x 1020 is 1000 pounds. This multiplied by 1¾″ the exact thickness of the joists = 1750 pounds, whereas provision must be made for 1785 pounds; therefore 3 x 10's must be used or the 2 x 10's must be set closer than 2 feet on centers.

## Economy

It also indicates the economical sizes to give best results. For example, the safe load for a 4 x 4 16 is 800 pounds (4 x 200) while the safe load for a 2 x 6 is 900 pounds (2 x 450), showing that while the 2 x 6 contains much less material, yet when used on edge it is ⅛ stronger than the 4 x 4.

## Safe Quiescent Loads Uniformly Distributed for Long Leaf Yellow Pine

set on edge and supported at both ends. Multiply weight given by exact thickness of joists used.

| Size | | | | | | Size | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1x4 | 1x6 | 1x7 | 1x8 | 1x9 | | 1x10 | 1x12 | 1x14 | 1x15 | 1x16 |
| Safe Load Pounds | | | | | Span in ft. | Safe Load Pounds | | | | |
| 533 | 1200 | 1633 | 2133 | 2700 | 6 | 3333 | 4800 | 6533 | 7500 | 8533 |
| 400 | 900 | 1225 | 1600 | 2025 | 8 | 2500 | 3600 | 4900 | 5633 | 6400 |
| 320 | 720 | 980 | 1280 | 1620 | 10 | 2000 | 2880 | 3920 | 4500 | 5120 |
| 267 | 600 | 816 | 1066 | 1350 | 12 | 1666 | 2400 | 3266 | 3750 | 4266 |
| 228 | 514 | 700 | 914 | 1157 | 14 | 1428 | 2056 | 2800 | 3214 | 3656 |
| 213 | 480 | 653 | 853 | 1080 | 15 | 1333 | 1920 | 2613 | 3000 | 3412 |
| 200 | 450 | 612 | 800 | 1012 | 16 | 1250 | 1800 | 2450 | 2816 | 3200 |
| 188 | 423 | 576 | 753 | 953 | 17 | 1176 | 1694 | 2306 | 2653 | 3012 |
| 178 | 400 | 544 | 711 | 900 | 18 | 1111 | 1600 | 2177 | 2500 | 2844 |
| 160 | 360 | 490 | 640 | 810 | 20 | 1000 | 1440 | 1960 | 2250 | 2560 |
| 145 | 327 | 445 | 582 | 736 | 22 | 909 | 1309 | 1782 | 2045 | 2327 |
| 139 | 313 | 426 | 556 | 704 | 23 | 869 | 1252 | 1704 | 1956 | 2226 |
| 133 | 300 | 408 | 533 | 675 | 24 | 833 | 1200 | 1633 | 1875 | 2133 |
| 128 | 288 | 392 | 512 | 648 | 25 | 800 | 1152 | 1568 | 1800 | 2048 |
| 123 | 277 | 377 | 492 | 623 | 26 | 769 | 1107 | 1507 | 1730 | 1969 |
| 119 | 267 | 363 | 474 | 600 | 27 | 740 | 1066 | 1451 | 1666 | 1896 |
| 114 | 257 | 350 | 457 | 578 | 28 | 714 | 1028 | 1400 | 1607 | 1828 |
| 107 | 240 | 326 | 426 | 540 | 30 | 667 | 960 | 1306 | 1500 | 1706 |
| 100 | 225 | 306 | 400 | 506 | 32 | 625 | 900 | 1225 | 1406 | 1600 |
| | | | 376 | 476 | 34 | 588 | 847 | 1153 | 1323 | 1506 |
| | | | 355 | 450 | 36 | 555 | 800 | 1088 | 1250 | 1422 |
| | | | 337 | 426 | 38 | 526 | 757 | 1031 | 1184 | 1347 |
| | | | 320 | 405 | 40 | 500 | 720 | 980 | 1125 | 1280 |

☞ The safe loads above estimated are for *clear* pieces and *full* sizes. On account of scant sizes and more or less defective stock, an allowance of 20 per cent must be made. For example, the safe load for a 1 x 8-8 is 1600 pounds, and for a 2 x 8-8 two times this or 3200 pounds. But for reasons stated 20 per cent must be deducted, reducing the safe load of a 2 x 8-8 to 2560 pounds.

The safe load for fir is 90 per cent of above long leaf yellow pine; for white oak 75 per cent; for short leaf yellow pine and Norway pine 70 per cent; hemlock 65 per cent; white pine 60 per cent; spruce 70 per cent; cast iron 222 per cent; wrought iron 666 per cent, and medium steel 888 per cent.

---

I. When the load is concentrated midway between the supports, take only half of above loads.

II. For beams fixed at one end the other unsupported and the load uniformly distributed take one-fourth of above loads; if the load is concentrated on the unsupported end, then take only one-eighth of above.

III. In the above, the safe load includes the weight of the joists, which must be deduucted to get the net or superimposed safe load.

IV. Joists longer than 12 times their width used without intermediate supports are apt to crack plastered ceilings.

## Safe Loads for Long Leaf Yellow Pine and Fir Columns Standing Plumb, Supported at the Ends Only

| Length of Post, Feet | | | | Size of Post | Length of Post, Feet | | | |
|---|---|---|---|---|---|---|---|---|
| 8 | 10 | 12 | 14 | Inches | 16 | 18 | 20 | 22 |
| Pounds | | | | | Pounds | | | |
| 12160 | 11200 | 10240 | 9280 | 4x4 | 8320 | 7360 | 6400 | 5440 |
| 18200 | 16800 | 15360 | 12920 | 4x6 | 12480 | 11040 | 9600 | 8160 |
| 19500 | 18760 | 17550 | 16500 | 5½ diam. round | 15460 | 14416 | 13395 | 12350 |
| 30200 | 28800 | 27400 | 25900 | 6x6 | 24500 | 23040 | 21600 | 20160 |
| 40300 | 38400 | 36500 | 34600 | 6x8 | 32600 | 30720 | 28800 | 26880 |
| 50400 | 48000 | 45600 | 43200 | 6x10 | 40800 | 38400 | 36000 | 33600 |
| 38540 | 37130 | 35710 | 34300 | 7½ diam. round | 32890 | 31450 | 30035 | 28622 |
| 64000 | 54400 | 52500 | 50600 | 8x8 | 48600 | 46700 | 44800 | 42880 |
| 80000 | 68000 | 65600 | 63200 | 8x10 | 60800 | 58400 | 56000 | 53600 |
| 96000 | 81600 | 78700 | 76800 | 8x12 | 73000 | 70100 | 67200 | 64320 |
| 70900 | 61970 | 60190 | 58350 | 9½ diam. round | 56580 | 54800 | 53018 | 51175 |
| 100000 | 100000 | 85600 | 83200 | 10x10 | 80800 | 78400 | 76000 | 73600 |
| 120000 | 120000 | 102700 | 99800 | 10x12 | 97000 | 94100 | 91200 | 88320 |
| 140000 | 140000 | 119800 | 116500 | 10x14 | 113100 | 109800 | 106400 | 103040 |
| 103900 | 103900 | 90912 | 88730 | 11½ diam. round | 86550 | 84160 | 82290 | 79972 |
| 144000 | 144000 | 144000 | 123800 | 12x12 | 121000 | 118100 | 115200 | 109440 |
| 168000 | 168000 | 168000 | 144500 | 12x14 | 141100 | 137800 | 134400 | 127680 |
| 192000 | 192000 | 192000 | 165100 | 12x16 | 161300 | 157400 | 153600 | 145920 |
| 196000 | 196000 | 196000 | 196000 | 14x14 | 169100 | 165800 | 162400 | 155800 |
| 256000 | 256000 | 256000 | 256000 | 16x16 | 225300 | 221400 | 217600 | 209900 |
| 324000 | 324000 | 324000 | 324000 | 18x18 | 289400 | 285100 | 280800 | 272160 |
| 400000 | 400000 | 400000 | 400000 | 20x20 | 400000 | 356800 | 352000 | 342400 |

Above are results of full size columns tested at the United States arsenal at Watertown, Mass., by James H. Stanwod who is instructor in civil engineering at Massachusetts Institute of Technology, as quoted by Frank E. Kidder in his "Architect's Pocket-Book." Above table is based on the following formula:

$$\text{Safe load per } \textit{square inch} \text{ of cross section} = 1000 - \left(10 \times \frac{\text{length in inches}}{\text{breadth in inches}}\right)$$

Other woods gave the following, to-wit:

Short leaf yellow pine:

$$\text{Safe load per } \textit{square inch} \text{ of cross section} = 850 - \left(8.5 \times \frac{\text{length in inches}}{\text{breadth in inches}}\right)$$

Oak and Norway pine:

$$\text{Safe load per } \textit{square inch} \text{ of cross section} = 750 - \left(7.5 \times \frac{\text{length in inches}}{\text{breadth in inches}}\right)$$

White pine and spruce:

$$\text{Safe load per } \textit{square inch} \text{ of cross section} = 625 - \left(6 \times \frac{\text{length in inches}}{\text{breadth in inches}}\right)$$

For the breadth use shortest side, *i. e.*, in a 4 x 6 the breadth is 4 inches. The results from above equations multiplied by area of cross section give the safe load in pounds.

# How to Figure Lumber

### Board Measure

Lumber is usually reckoned by Board Measures, the unit being a square foot one inch thick.

Lumber less than one inch thick is usually figured as of one inch.

The ordinary way of finding the contents of squared lumber is to multiply together the length in feet, the width and thickness in inches and divide the product by 12.

Figuring lumber by the above rule is a slow process, and the following system is adopted by experts whose business makes rapid calculation essential to their success.

Multiply together the thickness and width in inches, divide the product by 12 and multiply result by the length; the answer is Board Measure contents.

### Examples

A few examples will show the system for finding the contents of standard sizes in a few seconds and many of them without a moment's hesitation.

*Example:* Find the Board Measure contents of the following sizes:

| Pcs. | Size. | Length. | B. M |
|---|---|---|---|
| 1 | 2x 8 inches | 30 feet | 40 |
| 1 | 4x10 inches | 18 feet | 60 |
| 1 | 10x10 inches | 36 feet | 300 |
| 1 | 20x20 inches | 60 feet | 2000 |

#### Operation

2x8 equals 16 divided by 12 equals 16/12 or 1⅓. When this is multiplied by the length the answer is 40 feet; in other words, add one-third to the length and you have the Board Measure contents.

#### Operation

4x10 equals 40 divided by 12 equals 3⅓ or 10/3. In this instance a cipher is added to the length and when this is divided by three the result is 60 feet Board Measure contents.

10x10 equals 100; this divided by 12 equals 8⅓, or 100/12. It is easier to multiply by 100 and divide by 12 than to multiply by 8⅓, therefore add two ciphers to the length and divide by 12; the result is 300 feet Board Measure contents.

20x20 equals 400, divided by 12 equals 33⅓, or 100/3. All that is necessary is to add two ciphers to the length and divide by 3; the result is 2000 feet, Board Measure contents.

After a short reflection on the above method, it will be apparent to everyone that when this system is used I have made good my statement that the contents of any ordinary stick of lumber can be figured inside of a few seconds.

The following standard sizes and multiples for same will serve as a basis for practice, and when memorized will benefit those who wish to become rapid in figuring lumber, and at the same time may prove a stepping stone to a better position and successful career.

### Standard Sizes and Multiples

1 x 3 Divide lineal feet by 4.
1 x 4 Divide lineal feet by 3.
1 x 6 Divide lineal feet by 2.
1 x 8 Multiply lineal feet by 2 and divide by 3.
1 x10 Multiply lineal feet by 10 and divide by 12.
1 x12 Lineal feet and Board Measure the same.
2 x 3 Divide lineal feet by 2.
2 x 4 Multiply lineal feet by 2 and divide by 3.
2 x 8 Add to lineal feet 1/3 of amount.
2 x10 Multiply lineal feet by 10 and divide by 6.
2 x12 Multiply lineal feet by 2.
3 x 3 Multiply lineal feet by 3 and divide by 4.
3 x 4 Lineal feet and Board Measure the same.
3 x 6 Add to lineal feet 1/2 the amount.
3 x 8 Multiply lineal feet by 2.
3 x10 Multiply lineal feet by 10 and divide by 4.
3 x12 Multiply lineal feet by 3.
4 x 4 Add to lineal feet 1/3 of amount.
4 x 6 Multiply lineal feet by 2.
4 x 8 Multiply lineal feet by 3 and subtract 1/3 lineal feet from amount.
4 x10 Multiply lineal feet by 10 and divide by 3.
4 x12 Multiply lineal feet by 4.
8 x 8 Multiply lineal feet by 5 1/3.
10x10 Multiply lineal feet by 100 and divide by 12.
12x12 Multiply lineal feet by 12.
14x14 Multiply lineal feet by 16 1/3.
16x16 Multiply lineal feet by 21 1/3.
18x18 Multiply lineal feet by 27.
20x20 Multiply lineal feet by 100 and divide by 3.
22x22 Multiply lineal feet by 40 1/3.
24x24 Multiply lineal feet by 48.

### Another Method

A handy method for computing Board Measure contents preferred by a number of lumbermen is as follows:

For all 12 ft. lengths multiply width by thickness.
For all 14 ft. lengths multiply width by thickness and add 1/6.
For all 16 ft. lengths multiply width by thickness and add 1/3.
For all 18 ft. lengths multiply width by thickness and add 1/2.
For all 20 ft. lengths multiply width by thickness and add 2/3.
For all 22 ft. lengths multiply width by thickness and add 5/6.
For all 24 ft. lengths multiply width by thickness and double.

Some objection may be taken to the use of 2/3 and 5/6, but often by transposition you can substitute 1/6, 1/3 or 1/2 as in the following:

*Examples:*

10 pcs. 1x18—22 changed to 10 pcs. 1x22—18.
16 pcs. 1x22—20 changed to 20 pcs. 1x22—16.

In the first example instead of multiplying 10x18 and adding 5/6 to the result multiply 10x22 and add one-half to the result which will give 330 ft. Board Measure. In the second item instead of multiplying 16x22 and adding 2/3 multiply 20x22 and add 1/3 which gives 586 2/3 ft. Board Measure.

The above system is very handy when figuring lumber from 12 to 24 feet in length and also where odd widths and thicknesses frequently occur.

*To Convert Board Measure to Lineal Feet,* simply reverse the multiple used to bring lineal feet to Board Measure; in other words, multiply Board feet by 12 and divide by thickness and width.

*Example:* How many lineal feet are there in 1000 feet Board Measure of 2x8?

*Process:*

```
  1000
    12
 ------
2) 12000
 ------
8)  6000
 ------
   750  lineal feet.  Answer.
```

Car orders frequently call for a specified amount of sizes containing special lengths. Before proceeding to load it is necessary to find the number of pieces required.

Find the number of pieces in the following order:

1000 ft. B. M. 2x4-14.
1000 ft. B. M. 2x4-16.
1000 ft. B. M. 2x4-20.

Bring the Board Measure to lineal feet as shown in previous example then divide the length into lineal feet. The result will be the number of pieces.

*Process:*

```
  1000
    12
 ------
2) 12000
 ------
4)  6000
 ------
   1500 lineal feet.
```

The lineal feet given is now divided by the respective lengths and the following answer is obtained:

| | | |
|---|---|---|
| 107 Pcs. 2x4—14 | containing | 998 ft. 8 in. B. M. |
| 94 Pcs. 2x4—16 | containing | 1002 ft. 8 in. B. M. |
| 75 Pcs. 2x4—20 | containing | 1000 ft. B. M. |
| 276 | | 3001 ft. 4 in. B. M. |

## FIGURING SQUARE TIMBERS

This method of computing the Board Measure contents of square or rectangular timbers that exceed 12 inches one or both ways, is known to but very few, if any, lumbermen. It is a rapid way of figuring the majority of sizes, and on account of its simplicity the system is easily committed to memory.

# Depreciation

| FRAME | | | | The Constituent Parts of Buildings | BRICK, Shingle Roofs | | | |
|---|---|---|---|---|---|---|---|---|
| Stores | | Dwellings | | | Dwellings | | Stores | |
| Average Duration | Depreciation per Year | Average Duration | Depreciation per Year | | Average Duration | Depreciation per Year | Average Duration | Depreciation per Year |
| Years | % | Years | % | | Years | % | Years | % |
| 30 | 3⅓ | 40 | 2½ | Base | 40 | 2½ | 30 | 3⅓ |
| .... | .... | .... | .... | Brick | 75 | 1⅓ | 66 | 1½ |
| 30 | 3⅓ | 40 | 2½ | Cornice | 40 | 2½ | 40 | 2½ |
| 40 | 2½ | 50 | 2 | Dimension lumber | 75 | 1⅓ | 66 | 1⅓ |
| 25 | 4 | 30 | 3⅓ | Doors and trim | 30 | 3⅓ | 30 | 3⅓ |
| 13 | 8 | 20 | 5 | Floors | 20 | 5 | 13 | 8 |
| 13 | 8 | 20 | 5 | Hardware | 13 | 8 | 20 | 5 |
| 30 | 3⅓ | 30 | 3⅓ | Inside blinds | 30 | 3⅓ | 30 | 3⅓ |
| 16 | 6 | 16 | 6 | Outside blinds | 16 | 6 | 16 | 6 |
| 5 | 20 | 7 | 14 | Paint, inside | 7 | 14 | 6 | 16 |
| 5 | 20 | 5 | 20 | Paint, outside | 7 | 14 | 6 | 16 |
| 16 | 6 | 20 | 5 | Plaster | 30 | 3⅓ | 30 | 3⅓ |
| 20 | 5 | 20 | 5 | Porches | 20 | 5 | 20 | 5 |
| 16 | 6 | 16 | 6 | Shingles of wood | 16 | 6 | 16 | 6 |
| 40 | 2½ | 50 | 2 | Sheathing | 50 | 2 | 50 | 2 |
| 30 | 3⅓ | 30 | 3⅓ | Siding | .... | .... | .... | .... |
| 25 | 4 | 25 | 4 | Sills and first floor joists | 40 | 2½ | 30 | 3⅓ |
| 20 | 5 | 30 | 3⅓ | Stairs | 30 | 3⅓ | 20 | 5 |
| 25 | 4 | 30 | 3⅓ | Windows | 30 | 3⅓ | 30 | 3⅓ |

The facts in the above table were compiled by Mr. A. W. Spaulding for the Fire Underwriters' Association of the Northwest. Mr. Spaulding's investigation covered twenty-seven cities and towns in eleven western states, and it is believed that the table is as accurate as it is possible to produce. This Actuary table will enable lumbermen to pass upon the value of the constituent parts of any kind of building.

---

# How to Make Blue Prints

The paper, which may be bought ready for use, should be stored in a dry place and be entirely shielded from the sunlight until used.

1. Provide a smooth board as large as the tracing to be copied.
2. Lay on this two or three thicknesses of common blanket to give a slightly yielding backing for the paper.
3. Lay on the blanket the prepared paper with the sensitive side up.
4. Lay on the paper the tracing, smoothing it out as perfectly as possible to insure perfect contact with the paper.
5. Lay on the tracing a piece of clear plate glass, which should be heavy enough to press the tracing close down upon the paper.
6. Expose the whole to a clear sunlight from six to ten minutes. If a clear sky can be had, the exposure must be continued from thirty to forty-five minutes, and under a cloudy sky sixty to ninety minutes.
7. Remove the prepared paper and drench it in clear water, and hang it up by one corner to dry.

The paper is of a full yellow or bronze color. After the exposure to the light the surface becomes a darker bronze and the lines of the tracing appear still darker on the surface. Upon washing the paper the characteristic blue tints appear with the white lines of the tracing in vivid contrast.

---

# U. S. Whitewash—for Sheds

The United States government uses the following whitewash on brick, stone, and wood, and it is said to be almost as good as the best paint:

Slack a half bushel of lime with boiling water, keeping it under cover while slacking; strain it and then add a peck of salt dissolved in warm water, three pounds of rice previously boiled to a thin paste, half pound Spanish whiting, a pound of clean glue dissolved in warm water mix well and let stand for three days. Put on with brush, hot as possible.

# Rafters and Gables

| Width of Building | Fourth Pitch: Length of Rafter ft. | Fourth Pitch: Length of Rafter in. | Fourth Pitch: From Plate to Comb ft. | Fourth Pitch: From Plate to Comb in. | Fourth Pitch: Area of Two Gables | Third Pitch: Length of Rafter ft. | Third Pitch: Length of Rafter in. | Third Pitch: From Plate to Comb ft. | Third Pitch: From Plate to Comb in. | Third Pitch: Area of Two Gables | Half Pitch: Length of Rafter ft. | Half Pitch: Length of Rafter in. | Half Pitch: From Plate to Comb ft. | Half Pitch: From Plate to Comb in. | Half Pitch: Area of Two Gables |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 3 | 4 | 1 | 6 | 9 | 3 | 7 | 2 | 0 | 12 | 4 | 3 | 3 | 0 | 18 |
| 7 | 3 | 11 | 1 | 9 | 12 | 4 | 0 | 2 | 4 | 16 | 5 | 0 | 3 | 6 | 25 |
| 8 | 4 | 6 | 2 | 0 | 16 | 4 | 10 | 2 | 8 | 21 | 5 | 8 | 4 | 0 | 32 |
| 9 | 5 | 0 | 2 | 3 | 20 | 5 | 5 | 3 | 0 | 27 | 6 | 5 | 4 | 6 | 41 |
| 10 | 5 | 7 | 2 | 6 | 25 | 6 | 0 | 3 | 4 | 33 | 7 | 1 | 5 | 0 | 50 |
| 12 | 6 | 8 | 3 | 0 | 36 | 7 | 2 | 4 | 0 | 48 | 8 | 6 | 6 | 0 | 72 |
| 14 | 7 | 10 | 3 | 6 | 49 | 8 | 5 | 4 | 8 | 65 | 9 | 11 | 7 | 0 | 98 |
| 16 | 9 | 0 | 4 | 0 | 64 | 9 | 7 | 5 | 4 | 85 | 11 | 4 | 8 | 0 | 128 |
| 18 | 10 | 1 | 4 | 6 | 81 | 10 | 10 | 6 | 0 | 108 | 12 | 9 | 9 | 0 | 162 |
| 20 | 11 | 2 | 5 | 0 | 100 | 12 | 0 | 6 | 8 | 133 | 14 | 2 | 10 | 0 | 200 |
| 22 | 12 | 4 | 5 | 6 | 121 | 13 | 2 | 7 | 4 | 161 | 15 | 7 | 11 | 0 | 242 |
| 24 | 13 | 5 | 6 | 0 | 144 | 14 | 5 | 8 | 0 | 192 | 17 | 0 | 12 | 0 | 288 |
| 26 | 14 | 6 | 6 | 6 | 169 | 15 | 7 | 8 | 8 | 225 | 18 | 6 | 13 | 0 | 338 |
| 28 | 15 | 8 | 7 | 0 | 196 | 16 | 10 | 9 | 4 | 261 | 19 | 11 | 14 | 0 | 392 |
| 30 | 16 | 9 | 7 | 6 | 225 | 18 | 0 | 10 | 0 | 300 | 21 | 4 | 15 | 0 | 450 |
| 32 | 17 | 11 | 8 | 0 | 256 | 19 | 2 | 10 | 8 | 341 | 22 | 9 | 16 | 0 | 512 |

To the lengths of rafters above given, must be added the desired projection for cornice. Add also to make stock lengths.

For length of rafter on one-way roofs, take the rafter given for double the width thus: The rafter for a one-way roof on a building 10 feet wide, 4th pitch is that given for 20 feet wide or 11 feet, 2 inches.

In area of gable above given no allowance is made for waste or laps

To verify above or obtain length of rafters for buildings of other widths than above given multiply the width of building by .559 for 4th pitch; by .6 for 3d pitch and by .71 for half pitch.

**Capacity, in bushels, of cribs or bins, each Eight feet high in the clear.**

| WIDTH 3 | 8 | 10 | 12 | 14 | Length | WIDTH 16 | 18 | 22 | 26 | 30 |
|---|---|---|---|---|---|---|---|---|---|---|
| BUSHELS | | | | | | BUSHELS | | | | |
| 77 | 206 | 257 | 309 | 360 | 4 | 411 | 463 | 566 | 669 | 771 |
| 96 | 257 | 321 | 386 | 450 | 5 | 514 | 579 | 707 | 836 | 964 |
| 116 | 309 | 386 | 463 | 540 | 6 | 617 | 694 | 849 | 1003 | 1157 |
| 135 | 360 | 450 | 540 | 630 | 7 | 720 | 810 | 990 | 1170 | 1350 |
| 154 | 411 | 514 | 617 | 720 | 8 | 823 | 926 | 1131 | 1337 | 1543 |
| 174 | 463 | 579 | 694 | 810 | 9 | 926 | 1041 | 1273 | 1504 | 1736 |
| 193 | 514 | 643 | 771 | 900 | 10 | 1029 | 1157 | 1414 | 1671 | 1928 |
| 231 | 617 | 771 | 926 | 1080 | 12 | 1234 | 1388 | 1697 | 2006 | 2314 |
| 270 | 720 | 890 | 1080 | 1260 | 14 | 1440 | 1620 | 1980 | 2340 | 2700 |
| 309 | 823 | 1029 | 1234 | 1440 | 16 | 1646 | 1851 | 2263 | 2674 | 3086 |
| 347 | 926 | 1157 | 1388 | 1620 | 18 | 1851 | 2083 | 2546 | 3008 | 3471 |
| 386 | 1029 | 1286 | 1543 | 1800 | 20 | 2057 | 2314 | 2828 | 3343 | 3857 |
| 424 | 1131 | 1414 | 1697 | 1980 | 22 | 2263 | 2546 | 3111 | 3677 | 4243 |
| 463 | 1233 | 1543 | 1851 | 2160 | 24 | 2468 | 2777 | 3394 | 4011 | 4628 |
| 501 | 1337 | 1671 | 2006 | 2340 | 26 | 2674 | 3008 | 3677 | 4345 | 5014 |
| 540 | 1440 | 1800 | 2160 | 2520 | 28 | 2880 | 3240 | 3960 | 4680 | 5400 |
| 579 | 1543 | 1928 | 2314 | 2700 | 30 | 3086 | 3471 | 4243 | 5014 | 5785 |
| 617 | 1646 | 2057 | 2468 | 2880 | 32 | 3291 | 3703 | 4525 | 5348 | 6171 |

How large a bin shall I build to hold 800 bushels? is a very common question. To answer this and similar ones instantly is the object of above table, thus: How long a bin 8 feet wide and 8 feet high is required to hold 800 bushels of oats? Run down the 8-foot column until 823, the nearest amount to 800 bushels, is reached, and opposite, in the center column headed length, is 16, the length required.

For ear corn divide above quantities by 2; *i.e.*, a bin 8x8x16 will hold only 411 bushels ear corn. For bins 10 feet high add ¼ to above.

# Area of Openings

| WIDE | | | | | WIDE | | | |
|---|---|---|---|---|---|---|---|---|
| 22″ 1′ 10″ | 24″ 2′ 0″ | 26″ 2′ 2″ | 28″ 2′ 4″ | HIGH | 30″ 2′ 6″ | 32″ 2′ 8″ | 34″ 2′ 10″ | 36″ 3′ 0″ |
| SQUARE FEET | | | | | SQUARE FEET | | | |
| 3.67 | 4.00 | 4.33 | 4.67 | 24″ = 2′ 0″ | 5.00 | 5.33 | 5.67 | 6.00 |
| 3.82 | 4.17 | 4.51 | 4.86 | 25″ = 2′ 1″ | 5.21 | 5.56 | 5.90 | 6.25 |
| 3.97 | 4.33 | 4.69 | 5.06 | 26″ = 2′ 2″ | 5.42 | 5.78 | 6.14 | 6.50 |
| 4.12 | 4.50 | 4.87 | 5.25 | 27″ = 2′ 3″ | 5.62 | 6.00 | 6.37 | 6.75 |
| 4.28 | 4.67 | 5.05 | 5.44 | 28″ = 2′ 4″ | 5.83 | 6.22 | 6.61 | 7.00 |
| 4.43 | 4.83 | 5.24 | 5.64 | 29″ = 2′ 5″ | 6.04 | 6.44 | 6.85 | 7.25 |
| 4.58 | 5.00 | 5.42 | 5.83 | 30″ = 2′ 6″ | 6.25 | 6.67 | 7.08 | 7.50 |
| 4.74 | 5.17 | 5.60 | 6.03 | 31″ = 2′ 7″ | 6.46 | 6.89 | 7.32 | 7.75 |
| 4.89 | 5.33 | 5.78 | 6.22 | 32″ = 2′ 8″ | 6.67 | 7.11 | 7.55 | 8.00 |
| 5.04 | 5.50 | 5.96 | 6.42 | 33″ = 2′ 9″ | 6.87 | 7.33 | 7.79 | 8.25 |
| 5.19 | 5.67 | 6.14 | 6.61 | 34″ = 2′ 10″ | 7.08 | 7.55 | 8.03 | 8.50 |
| 5.35 | 5.83 | 6.32 | 6.80 | 35″ = 2′ 11″ | 7.29 | 7.78 | 8.26 | 8.75 |
| 5.50 | 6.00 | 6.50 | 7.00 | 36″ = 3′ 0″ | 7.50 | 8.00 | 8.50 | 9.00 |
| 5.65 | 6.17 | 6.68 | 7.19 | 37″ = 3′ 1″ | 7.71 | 8.22 | 8.73 | 9.25 |
| 5.80 | 6.33 | 6.86 | 7.39 | 38″ = 3′ 2″ | 7.91 | 8.44 | 8.97 | 9.50 |
| 5.96 | 6.50 | 7.04 | 7.58 | 39″ = 3′ 3″ | 8.12 | 8.66 | 9.21 | 9.75 |
| 6.11 | 6.67 | 7.22 | 7.78 | 40″ = 3′ 4″ | 8.33 | 8.89 | 9.44 | 10.00 |
| 6.26 | 6.83 | 7.40 | 7.97 | 41″ = 3′ 5″ | 8.54 | 9.11 | 9.68 | 10.25 |
| 6.42 | 7.00 | 7.58 | 8.16 | 42″ 3′ 6″ | 8.75 | 9.33 | 9.91 | 10.50 |
| 6.57 | 7.17 | 7.76 | 8.36 | 43″ = 3′ 7″ | 8.96 | 9.55 | 10.15 | 10.75 |
| 6.72 | 7.33 | 7.94 | 8.55 | 44″ = 3′ 8″ | 9.16 | 9.77 | 10.39 | 11.00 |
| 6.87 | 7.50 | 8.12 | 8.75 | 45″ = 3′ 9″ | 9.37 | 10.00 | 10.62 | 11.25 |
| 7.03 | 7.67 | 8.30 | 8.94 | 46″ = 3′ 10″ | 9.58 | 10.22 | 10.86 | 11.50 |
| 7.18 | 7.83 | 8.40 | 9.14 | 47″ = 3′ 11″ | 9.79 | 10.44 | 11.09 | 11.75 |
| 7.33 | 8.00 | 8.66 | 9.33 | 48″ = 4′ 0″ | 10.00 | 10.66 | 11.33 | 12.00 |

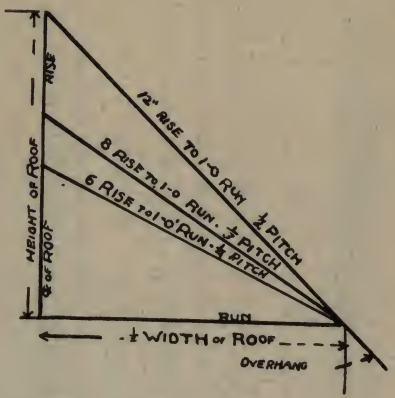
| WIDE | | | | | WIDE | | | |
|---|---|---|---|---|---|---|---|---|
| 22″ 1′ 10″ | 24″ 2′ 0″ | 26″ 2′ 2″ | 28″ 2′ 4″ | HIGH | 30″ 2′ 6″ | 32″ 2′ 8″ | 34″ 2′ 10″ | 36″ 3′ 0″ |
| SQUARE FEET | | | | | SQUARE FEET | | | |
| 7.48 | 8.17 | 8.84 | 9.52 | 49″ = 4′ 1″ | 10.21 | 10.88 | 11.57 | 12.25 |
| 7.64 | 8.33 | 9.02 | 9.72 | 50″ = 4′ 2″ | 10.41 | 11.11 | 11.80 | 12.50 |
| 7.79 | 8.50 | 9.20 | 9.91 | 51″ = 4′ 3″ | 10.62 | 11.33 | 12.04 | 12.75 |
| 7.94 | 8.66 | 9.38 | 10.11 | 52″ = 4′ 4″ | 10.83 | 11.55 | 12.27 | 13.00 |
| 8.09 | 8.83 | 9.56 | 10.30 | 53″ = 4′ 5″ | 11.04 | 11.77 | 12.51 | 13.25 |
| 8.25 | 9.00 | 9.75 | 10.50 | 54″ = 4′ 6″ | 11.25 | 11.99 | 12.75 | 13.50 |
| 8.40 | 9.16 | 9.93 | 10.69 | 55″ = 4′ 7″ | 11.45 | 12.22 | 12.98 | 13.75 |
| 8.55 | 9.33 | 10.11 | 10.88 | 56″ = 4′ 8″ | 11.66 | 12.44 | 13.22 | 14.00 |
| 8.71 | 9.50 | 10.29 | 11.06 | 57″ = 4′ 9″ | 11.87 | 12.66 | 13.45 | 14.25 |
| 8.86 | 9.66 | 10.47 | 11.27 | 58″ = 4′ 10″ | 12.08 | 12.88 | 13.69 | 14.50 |
| 9.01 | 9.83 | 10.65 | 11.47 | 59″ = 4′ 11″ | 12.29 | 13.10 | 13.93 | 14.75 |
| 9.16 | 10.00 | 10.83 | 11.66 | 60″ = 5′ 0″ | 12.50 | 13.33 | 14.16 | 15.00 |
| 9.32 | 10.16 | 11.01 | 11.86 | 61″ = 5′ 1″ | 12.70 | 13.55 | 14.40 | 15.25 |
| 9.47 | 10.33 | 11.19 | 12.05 | 62″ = 5′ 2″ | 12.91 | 13.77 | 14.63 | 15.50 |
| 9.62 | 10.50 | 11.37 | 12.24 | 63″ = 5′ 3″ | 13.12 | 13.99 | 14.87 | 15.75 |
| 9.77 | 10.66 | 11.55 | 12.44 | 64″ = 5′ 4″ | 13.33 | 14.21 | 15.11 | 16.00 |
| 9.93 | 10.83 | 11.73 | 12.63 | 65″ = 5′ 5″ | 13.54 | 14.44 | 15.34 | 16.25 |
| 10.08 | 11.00 | 11.91 | 12.83 | 66″ = 5′ 6″ | 13.74 | 14.66 | 15.58 | 16.50 |
| 10.23 | 11.16 | 12.09 | 13.02 | 67″ = 5′ 7″ | 13.95 | 14.88 | 15.81 | 16.75 |
| 10.39 | 11.33 | 12.27 | 13.22 | 68″ = 5′ 8″ | 14.16 | 15.10 | 16.05 | 17.00 |
| 10.54 | 11.50 | 12.45 | 13.41 | 69″ = 5′ 9″ | 14.37 | 15.32 | 16.29 | 17.25 |
| 10.69 | 11.66 | 12.63 | 13.60 | 70″ = 5′ 10″ | 14.58 | 15.55 | 16.52 | 17.50 |
| 10.84 | 11.83 | 12.81 | 13.80 | 71″ = 5′ 11″ | 14.79 | 15.77 | 16.76 | 17.75 |
| 11.00 | 12.00 | 13.00 | 14.00 | 72″ = 6′ 0″ | 15.00 | 16.00 | 17.00 | 18.00 |

Explanation—For the square feet in an opening 36 by 58 inches read in the 36-inch column opposite 58 in the center 14.50.

# Roof Pitches

This diagram shows the three standard roof pitches that are used by all carpenters who put up buildings. But some good workmen are not sure of all the terms that are used to describe them.

Pitch means the angle or slant of the rafters in a straight line from the eaves to the peak of the roof.




Rise means the vertical elevation of the rafter at a given point. The term "rise" is always used in connection with the term "run." A roof rises a certain number of inches to each foot of the run.

Run is the horizontal measurement from the plate to the center line of the building.

Rise is the vertical climb of the rafter expressed in feet.

For example, the rise of a half pitch roof is equal to the run, which means that the distance from the plate to the center line of the building is the same as the distance from the center line to the peak The rise of a one-quarter pitch roof is just half as much.

---

# The Actuary Way to Figure Roof Spaces

The exact area of any roof, regardless of its shape, no matter how it may be cut up, is accurately determined as follows: Get the exact area from outside to outside of the walls on the level of the plates on which the rafters rest and add for the different roof pitches as follows:

One-fourth pitch add to area on square.....12 per cent

One-third pitch add to area on square.....20 per cent

One-half pitch add to area on square.....42 per cent

Three-eighths pitch add to area on square.....25 per cent

Five-eighths pitch add to area on square.....60 per cent

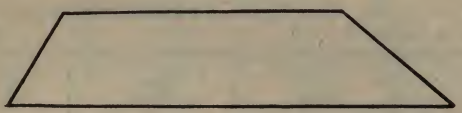
Three-fourths pitch add to area on square.....80 per cent

To the results thus obtained add the cornice projection all round. This gives the roof area sufficiently accurate for all practical purposes. For illustration, take a third pitch hip-roof—building 30 by 30 or 900 square feet at the square. Adding 20 per cent, or 180, gives 1080 as the roof area including all dormers but excluding all cornice projections. Had there been a deck 5 by 6, or 30 square feet, then 30 plus 20 per cent should be deducted or 36 feet from 1080=1044 as the roof area, exclusive of deck and cornice projections.

# Tapering Lumber

### How to Figure Trapezoids, or Boards With Only Two Parallel Sides

Find the Board Measure contents of a board one inch thick, whose parallel sides are 16 feet and 20 feet in length and 8 inches wide.

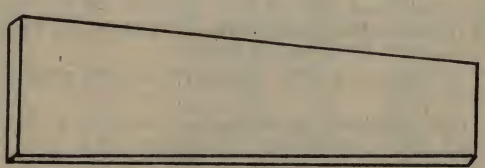


Add together the two parallel sides, and divide their sum by 2, multiply the result by the inches in width and divide by 12. The answer is 12 feet Board Measure contents.

*Operation:*

```
   16
   20
  ---
2) 36
  ---
   18
    8
  ---
12) 144
  ---
   12 ft. Board Measure.
```

Find the Board Measure contents of a board one inch thick, 24 feet long whose parallel ends are 10 inches and 18 inches respectively.



*Operation:*

```
   10
   18
  ---
2) 28
  ---
   14
   24
  ---
12)336
  ---
   28 ft. Board Measure.
```

# Actuary's Estimate Tables

## To Find Quantities of Lumber Required

STUDDING on 16 inch centers. Estimate one to the lineal foot: This allows for doubling at openings and at corners.

JOISTS AND RAFTERS on 16 inch centers. To ¾ of the length of the building add 1; thus: For a building 16x32, ¾ of 32=24, to which add 1, or 25, being the joists required, or the rafters for 1 side. Add 1 or 2 for each bearing partition.

ROOF SHEATHING LAID SOLID. To full area of roof add 10 per cent for waste. If laid 2 inches apart ¾ of above will be required.

| ARTICLE | Count Width | Face Width | Loss in Matching | To area to be covered add |
|---|---|---|---|---|
| Shiplap | 12 inch | 11¼ | 7 % | 1-12 |
| " | 10 " | 9¼ | 8⅓ " | 1-10 |
| " | 8 " | 7¼ | 11 " | 1-8 |
| " | 6 " | 5¼ | 12½ " | 1-5 |
| Flooring | 6 " | 5¼ | 12½ " | 1-5 |
| " | 4¼ " | 3½ | 18 " | ¼ |
| " | 4 " | 3¼ | 19 " | ¼ |
| " | 3 " | 2¼ | 25 " | ⅓ |
| " | 2¾ " | 2 | 27 " | ⅓ |
| " | 2½ " | 2 | 20 " | ¼ |
| " | 2 " | 1½ | 25 " | ⅓ |

Drop siding, ceiling, and partition same as above.

| ARTICLE | Size | Exposed | To area to be covered add |
|---|---|---|---|
| Siding, beveled | ½x4 | 3¼ inch | ¼ |
| " " | ½x4 | 3 " | ⅓ |
| " " | ½x4 | 2¾ " | ½ |
| " " | ½x5 | 4¼ " | 1-5 |
| " " | ½x5 | 4 " | ¼ |
| " " | ½x5 | 3¾ " | ⅓ |
| " " | ½x6 | 5¼ " | 1-5 |
| " " | ½x6 | 5 " | 9-40 |
| " " | ½x6 | 4¾ " | ¼ |

SHINGLES

When exposed 4 inches to the weather require 9 to the square foot.
" " 4½ " " " " " 8 " " " " "
" " 5 " " " " " 7 1-5 " " " "
" " 5½ " " " " " 6½ " " " "
" " 6 " " " " " 6 " " " "

} Add 1-10 for Waste

CORNICES. Multiply the total lineal feet, by the combined width of planceer, frieze, and fascia thus: If the planceer is 12 inches, the frieze 8 inches, and the fascia 4 inches, the combined width is 24 inches or 2 feet b. m. to the lineal foot of cornice.

CORNER BOARDS AND OUTSIDE BASE. Estimate on same plan as cornices and then add ¼ if of 1¼ or ½ if of 1½ stuff.

BRIDGING. Multiply the total lineal feet, measuring each string in a straight line by the following:

| | | | | |
|---|---|---|---|---|
| For | 2x6 2x8 or 2x10 | on 16 inch | centers by | 2 |
| " | 2x12 | 16 " " | " | 2¼ |
| " | 2x14 | 16 " " | " | 2½ |
| " | 2x6 and 2x8 | 12 " " | " | 2 |
| " | 2x10 and 2x12 | 12 " " | " | 2¼ |
| " | 2x14 | 12 " " | " | 2⅔ |

LATTICE

1⅛ wide multiply the area by 12 for the lineal feet required.
1⅜ " " " " " 10 " " " " "
1¾ " " " " " 8 " " " " "

### Lath

Lath when laid ⅜ inch apart, as for lime, require 1½ to the square foot, or 13½ to the square yard to which add 4% for waste, making practically 14 to the square yard. So to find the lath required increase the square feet to be lathed by ½ thus: 900 square feet require 900+½ of 900 or 1350 lath plus 4%=1404.

When laid ¼ inch apart, as for cement plasters, require 7 per cent more lath.

When there are no openings add 10 per cent to amount obtained by above.

# Square Feet in the Ceiling and Four Walls of Rooms

## 7-Foot Ceilings

| FEET WIDE | | | | | | | FEET WIDE | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 4 | 5 | 6 | 7 | 8 | Feet Long | 9 | 10 | 11 | 12 | 13 | 14 |
| AREA SQUARE FEET | | | | | | | AREA SQUARE FEET | | | | | |
| 93 | 110 | 127 | 144 | 161 | 178 | 3 | 195 | 212 | 229 | 246 | 263 | 280 |
| 110 | 128 | 146 | 164 | 182 | 200 | 4 | 218 | 236 | 254 | 272 | 290 | 308 |
| 127 | 146 | 165 | 184 | 203 | 222 | 5 | 241 | 260 | 279 | 298 | 317 | 336 |
| 144 | 164 | 184 | 204 | 224 | 244 | 6 | 264 | 284 | 304 | 324 | 344 | 364 |
| 161 | 182 | 203 | 224 | 245 | 266 | 7 | 287 | 308 | 329 | 350 | 371 | 392 |
| 178 | 200 | 222 | 244 | 266 | 288 | 8 | 310 | 332 | 354 | 376 | 398 | 420 |
| 195 | 218 | 241 | 264 | 287 | 310 | 9 | 333 | 356 | 379 | 402 | 425 | 448 |
| 212 | 236 | 260 | 284 | 308 | 332 | 10 | 356 | 380 | 404 | 428 | 452 | 476 |
| 229 | 254 | 279 | 304 | 329 | 354 | 11 | 379 | 404 | 429 | 454 | 479 | 594 |
| 246 | 272 | 298 | 324 | 350 | 376 | 12 | 402 | 428 | 454 | 480 | 506 | 532 |
| 263 | 290 | 317 | 344 | 371 | 398 | 13 | 425 | 452 | 479 | 506 | 533 | 560 |
| 280 | 308 | 336 | 364 | 392 | 420 | 14 | 448 | 476 | 504 | 532 | 560 | 588 |
| 297 | 326 | 355 | 384 | 413 | 442 | 15 | 471 | 500 | 529 | 558 | 587 | 616 |
| 314 | 344 | 374 | 404 | 434 | 464 | 16 | 494 | 524 | 554 | 584 | 614 | 644 |
| 331 | 362 | 393 | 424 | 455 | 486 | 17 | 517 | 548 | 579 | 610 | 641 | 672 |
| 348 | 380 | 412 | 444 | 476 | 508 | 18 | 540 | 572 | 604 | 636 | 668 | 700 |
| 365 | 398 | 431 | 464 | 497 | 530 | 19 | 563 | 596 | 629 | 662 | 695 | 728 |
| 382 | 416 | 450 | 484 | 518 | 552 | 20 | 586 | 620 | 654 | 688 | 722 | 756 |
| 399 | 434 | 469 | 504 | 539 | 574 | 21 | 609 | 644 | 679 | 714 | 749 | 784 |
| 416 | 452 | 488 | 524 | 560 | 596 | 22 | 632 | 668 | 704 | 740 | 776 | 812 |
| 433 | 470 | 507 | 544 | 581 | 618 | 23 | 655 | 692 | 729 | 766 | 803 | 840 |
| 450 | 488 | 526 | 564 | 602 | 640 | 24 | 678 | 716 | 754 | 792 | 830 | 868 |
| 467 | 506 | 545 | 584 | 623 | 662 | 25 | 701 | 740 | 779 | 818 | 857 | 896 |
| 484 | 524 | 564 | 604 | 644 | 684 | 26 | 724 | 764 | 804 | 844 | 884 | 924 |
| 501 | 542 | 583 | 624 | 665 | 706 | 27 | 747 | 788 | 829 | 870 | 911 | 952 |
| 518 | 560 | 602 | 644 | 686 | 728 | 28 | 770 | 812 | 854 | 896 | 938 | 980 |
| 535 | 578 | 621 | 664 | 707 | 750 | 29 | 793 | 836 | 879 | 922 | 965 | 1008 |
| 552 | 596 | 640 | 684 | 728 | 772 | 30 | 816 | 860 | 904 | 948 | 992 | 1036 |

| 15 | 16 | 17 | 18 | 19 | 20 | Feet Long | 21 | 22 | 23 | 24 | 25 | 26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AREA SQUARE FEET | | | | | | | AREA SQUARE FEET | | | | | |
| 297 | 314 | 331 | 348 | 365 | 382 | 3 | 399 | 416 | 433 | 450 | 467 | 484 |
| 326 | 344 | 362 | 380 | 398 | 416 | 4 | 434 | 452 | 470 | 488 | 506 | 524 |
| 355 | 374 | 393 | 412 | 431 | 450 | 5 | 469 | 488 | 507 | 526 | 545 | 564 |
| 384 | 404 | 424 | 444 | 464 | 484 | 6 | 504 | 524 | 544 | 564 | 584 | 604 |
| 413 | 434 | 455 | 476 | 497 | 518 | 7 | 539 | 560 | 581 | 602 | 623 | 644 |
| 442 | 464 | 486 | 508 | 530 | 552 | 8 | 574 | 596 | 618 | 640 | 662 | 684 |
| 471 | 494 | 517 | 540 | 563 | 586 | 9 | 609 | 632 | 655 | 678 | 701 | 724 |
| 500 | 524 | 548 | 572 | 596 | 620 | 10 | 644 | 668 | 692 | 716 | 740 | 764 |
| 529 | 554 | 579 | 604 | 629 | 654 | 11 | 679 | 704 | 729 | 754 | 779 | 804 |
| 558 | 584 | 610 | 636 | 662 | 688 | 12 | 714 | 740 | 766 | 792 | 818 | 844 |
| 587 | 614 | 641 | 668 | 695 | 722 | 13 | 749 | 776 | 803 | 830 | 857 | 884 |
| 616 | 644 | 672 | 700 | 728 | 756 | 14 | 784 | 812 | 840 | 868 | 896 | 924 |
| 645 | 674 | 703 | 732 | 761 | 790 | 15 | 819 | 848 | 877 | 906 | 935 | 964 |
| 674 | 704 | 734 | 764 | 794 | 824 | 16 | 854 | 884 | 914 | 944 | 974 | 1004 |
| 703 | 734 | 765 | 796 | 827 | 858 | 17 | 889 | 920 | 951 | 982 | 1013 | 1044 |
| 732 | 764 | 796 | 828 | 860 | 892 | 18 | 924 | 956 | 988 | 1020 | 1052 | 1084 |
| 761 | 794 | 827 | 860 | 893 | 926 | 19 | 959 | 992 | 1025 | 1058 | 1091 | 1124 |
| 790 | 824 | 858 | 892 | 926 | 960 | 20 | 994 | 1028 | 1062 | 1096 | 1130 | 1164 |
| 819 | 854 | 889 | 924 | 959 | 994 | 21 | 1029 | 1064 | 1099 | 1134 | 1169 | 1204 |
| 848 | 884 | 920 | 956 | 992 | 1028 | 22 | 1064 | 1100 | 1136 | 1172 | 1208 | 1244 |
| 877 | 914 | 951 | 988 | 1025 | 1062 | 23 | 1099 | 1136 | 1173 | 1210 | 1247 | 1284 |
| 906 | 944 | 982 | 1020 | 1058 | 1096 | 24 | 1134 | 1172 | 1210 | 1248 | 1286 | 1324 |
| 935 | 974 | 1013 | 1052 | 1091 | 1130 | 25 | 1169 | 1208 | 1247 | 1286 | 1325 | 1364 |
| 964 | 1004 | 1044 | 1084 | 1124 | 1164 | 26 | 1204 | 1244 | 1284 | 1324 | 1364 | 1404 |
| 993 | 1034 | 1075 | 1116 | 1157 | 1198 | 27 | 1239 | 1280 | 1321 | 1362 | 1403 | 1444 |
| 1022 | 1064 | 1106 | 1148 | 1190 | 1232 | 28 | 1274 | 1316 | 1358 | 1400 | 1442 | 1484 |
| 1051 | 1094 | 1137 | 1180 | 1223 | 1266 | 29 | 1309 | 1352 | 1395 | 1438 | 1481 | 1524 |
| 1080 | 1124 | 1168 | 1212 | 1256 | 1300 | 30 | 1344 | 1388 | 1432 | 1476 | 1520 | 1564 |

Explanation—For the total square feet in a room 20 feet wide and 30 feet long, ceiling 7 feet high, run down the 20-ft. column and opposite 30 read 1300 square feet.

# Square Feet in the Ceiling and Four Walls of Rooms

## 8-Foot Ceilings

| FEET WIDE | | | | | | | FEET WIDE | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 4 | 5 | 6 | 7 | 8 | Feet Long | 9 | 10 | 11 | 12 | 13 | 14 |
| AREA SQUARE FEET | | | | | | | AREA SQUARE FEET | | | | | |
| 105 | 124 | 143 | 162 | 181 | 200 | 3 | 219 | 238 | 257 | 276 | 295 | 314 |
| 124 | 144 | 164 | 184 | 204 | 224 | 4 | 244 | 264 | 284 | 304 | 324 | 344 |
| 143 | 164 | 185 | 206 | 227 | 248 | 5 | 269 | 290 | 311 | 332 | 353 | 374 |
| 162 | 184 | 206 | 228 | 250 | 272 | 6 | 294 | 316 | 338 | 360 | 382 | 404 |
| 181 | 204 | 227 | 250 | 273 | 296 | 7 | 319 | 342 | 365 | 388 | 411 | 434 |
| 200 | 224 | 248 | 272 | 296 | 320 | 8 | 344 | 368 | 392 | 416 | 440 | 464 |
| 219 | 244 | 269 | 294 | 319 | 344 | 9 | 369 | 394 | 419 | 444 | 469 | 494 |
| 238 | 264 | 290 | 316 | 342 | 368 | 10 | 394 | 420 | 446 | 472 | 498 | 524 |
| 257 | 284 | 311 | 338 | 365 | 392 | 11 | 419 | 446 | 473 | 500 | 527 | 554 |
| 276 | 304 | 332 | 360 | 388 | 416 | 12 | 444 | 472 | 500 | 528 | 556 | 584 |
| 295 | 324 | 353 | 382 | 411 | 440 | 13 | 469 | 498 | 527 | 556 | 585 | 614 |
| 314 | 344 | 374 | 404 | 434 | 464 | 14 | 494 | 524 | 554 | 584 | 614 | 644 |
| 333 | 364 | 395 | 426 | 457 | 488 | 15 | 519 | 550 | 581 | 612 | 643 | 674 |
| 352 | 384 | 416 | 448 | 480 | 512 | 16 | 544 | 576 | 608 | 640 | 672 | 704 |
| 371 | 404 | 437 | 470 | 503 | 536 | 17 | 569 | 602 | 635 | 668 | 701 | 734 |
| 390 | 424 | 458 | 492 | 526 | 560 | 18 | 594 | 628 | 662 | 696 | 730 | 764 |
| 409 | 444 | 479 | 514 | 549 | 584 | 19 | 619 | 654 | 689 | 724 | 759 | 794 |
| 428 | 464 | 500 | 536 | 572 | 608 | 20 | 644 | 680 | 716 | 752 | 788 | 824 |
| 447 | 484 | 521 | 558 | 595 | 632 | 21 | 669 | 706 | 743 | 780 | 817 | 854 |
| 466 | 504 | 542 | 580 | 618 | 656 | 22 | 694 | 732 | 770 | 808 | 846 | 884 |
| 485 | 524 | 563 | 602 | 641 | 680 | 23 | 719 | 758 | 797 | 836 | 875 | 914 |
| 504 | 544 | 584 | 624 | 664 | 704 | 24 | 744 | 784 | 824 | 864 | 904 | 944 |
| 523 | 564 | 605 | 646 | 687 | 728 | 25 | 769 | 810 | 851 | 892 | 933 | 974 |
| 542 | 584 | 626 | 668 | 710 | 752 | 26 | 794 | 836 | 878 | 920 | 962 | 1004 |
| 561 | 604 | 647 | 690 | 733 | 776 | 27 | 819 | 862 | 905 | 948 | 991 | 1034 |
| 580 | 624 | 668 | 712 | 756 | 800 | 28 | 844 | 888 | 932 | 976 | 1020 | 1064 |
| 599 | 644 | 689 | 734 | 779 | 824 | 29 | 869 | 914 | 959 | 1004 | 1049 | 1094 |
| 618 | 664 | 710 | 756 | 802 | 848 | 30 | 894 | 940 | 986 | 1032 | 1078 | 1124 |

| 15 | 16 | 17 | 18 | 19 | 20 | Feet Long | 21 | 22 | 23 | 24 | 25 | 26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AREA SQUARE FEET | | | | | | | AREA SQUARE FEET | | | | | |
| 333 | 352 | 371 | 390 | 409 | 428 | 3 | 447 | 466 | 485 | 504 | 523 | 542 |
| 364 | 384 | 404 | 424 | 444 | 464 | 4 | 484 | 504 | 524 | 544 | 564 | 584 |
| 395 | 416 | 437 | 458 | 479 | 500 | 5 | 521 | 542 | 563 | 584 | 605 | 626 |
| 426 | 448 | 470 | 492 | 514 | 536 | 6 | 558 | 580 | 602 | 624 | 646 | 668 |
| 457 | 480 | 503 | 526 | 549 | 572 | 7 | 595 | 618 | 641 | 664 | 687 | 710 |
| 488 | 512 | 536 | 560 | 584 | 608 | 8 | 632 | 656 | 680 | 704 | 728 | 752 |
| 519 | 544 | 569 | 594 | 619 | 644 | 9 | 669 | 694 | 719 | 744 | 769 | 794 |
| 550 | 576 | 602 | 628 | 654 | 680 | 10 | 706 | 732 | 758 | 784 | 810 | 836 |
| 581 | 608 | 635 | 662 | 689 | 716 | 11 | 743 | 770 | 797 | 824 | 851 | 878 |
| 612 | 640 | 668 | 696 | 724 | 752 | 12 | 780 | 808 | 836 | 864 | 892 | 920 |
| 643 | 672 | 701 | 730 | 759 | 788 | 13 | 817 | 846 | 875 | 904 | 933 | 962 |
| 674 | 704 | 734 | 764 | 794 | 824 | 14 | 854 | 884 | 914 | 944 | 974 | 1004 |
| 705 | 736 | 767 | 798 | 829 | 860 | 15 | 891 | 922 | 953 | 984 | 1015 | 1046 |
| 736 | 768 | 800 | 832 | 864 | 896 | 16 | 928 | 960 | 992 | 1024 | 1056 | 1088 |
| 767 | 800 | 833 | 866 | 899 | 932 | 17 | 965 | 998 | 1031 | 1064 | 1097 | 1130 |
| 798 | 832 | 866 | 900 | 934 | 968 | 18 | 1002 | 1036 | 1070 | 1104 | 1138 | 1172 |
| 829 | 864 | 899 | 934 | 969 | 1004 | 19 | 1039 | 1074 | 1109 | 1144 | 1179 | 1214 |
| 860 | 896 | 932 | 968 | 1004 | 1040 | 20 | 1076 | 1112 | 1148 | 1184 | 1220 | 1256 |
| 891 | 928 | 965 | 1002 | 1039 | 1076 | 21 | 1113 | 1150 | 1187 | 1224 | 1261 | 1298 |
| 922 | 960 | 998 | 1036 | 1074 | 1112 | 22 | 1150 | 1188 | 1226 | 1264 | 1302 | 1340 |
| 953 | 992 | 1031 | 1070 | 1109 | 1148 | 23 | 1187 | 1226 | 1265 | 1304 | 1343 | 1382 |
| 984 | 1024 | 1064 | 1104 | 1144 | 1184 | 24 | 1224 | 1264 | 1304 | 1344 | 1384 | 1424 |
| 1015 | 1056 | 1097 | 1138 | 1179 | 1220 | 25 | 1261 | 1302 | 1343 | 1384 | 1425 | 1466 |
| 1046 | 1088 | 1130 | 1172 | 1214 | 1256 | 26 | 1298 | 1340 | 1382 | 1424 | 1466 | 1508 |
| 1077 | 1120 | 1163 | 1206 | 1249 | 1292 | 27 | 1335 | 1378 | 1421 | 1464 | 1507 | 1550 |
| 1108 | 1152 | 1196 | 1240 | 1284 | 1328 | 28 | 1372 | 1416 | 1460 | 1504 | 1548 | 1592 |
| 1139 | 1184 | 1229 | 1274 | 1319 | 1364 | 29 | 1409 | 1454 | 1499 | 1544 | 1589 | 1634 |
| 1170 | 1216 | 1262 | 1308 | 1354 | 1400 | 30 | 1446 | 1492 | 1538 | 1584 | 1630 | 1676 |

Explanation—For the total square feet in a room 20 feet wide and 30 feet long, ceiling 8 feet high, unr down the 20-ft. column and opposite 30 read 1400 square feet.

# Square Feet in the Ceiling and Four Walls of Rooms

## 9-Foot Ceilings

| FEET WIDE | | | | | | | FEET WIDE | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 4 | 5 | 6 | 7 | 8 | Feet Long | 9 | 10 | 11 | 12 | 13 | 14 |
| AREA SQUARE FEET | | | | | | | AREA SQUARE FEET | | | | | |
| 117 | 138 | 159 | 180 | 201 | 222 | 3 | 243 | 254 | 285 | 306 | 327 | 348 |
| 138 | 160 | 182 | 204 | 225 | 248 | 4 | 270 | 292 | 314 | 336 | 358 | 380 |
| 159 | 182 | 205 | 228 | 251 | 274 | 5 | 297 | 320 | 343 | 366 | 389 | 412 |
| 180 | 204 | 228 | 252 | 276 | 300 | 6 | 324 | 348 | 372 | 396 | 420 | 444 |
| 201 | 226 | 251 | 276 | 301 | 326 | 7 | 351 | 376 | 401 | 426 | 451 | 476 |
| 222 | 248 | 274 | 300 | 326 | 352 | 8 | 378 | 404 | 430 | 456 | 482 | 508 |
| 243 | 270 | 297 | 324 | 351 | 378 | 9 | 405 | 432 | 459 | 486 | 513 | 540 |
| 264 | 292 | 320 | 348 | 376 | 404 | 10 | 432 | 460 | 488 | 516 | 544 | 572 |
| 285 | 314 | 343 | 372 | 401 | 430 | 11 | 459 | 488 | 517 | 546 | 575 | 604 |
| 306 | 336 | 366 | 396 | 426 | 456 | 12 | 486 | 516 | 546 | 576 | 606 | 636 |
| 327 | 358 | 389 | 420 | 451 | 482 | 13 | 513 | 544 | 575 | 606 | 637 | 668 |
| 348 | 380 | 412 | 444 | 476 | 508 | 14 | 540 | 572 | 604 | 636 | 668 | 700 |
| 369 | 402 | 435 | 468 | 501 | 534 | 15 | 567 | 600 | 633 | 666 | 699 | 732 |
| 390 | 424 | 458 | 492 | 526 | 560 | 16 | 594 | 628 | 662 | 696 | 730 | 764 |
| 411 | 446 | 481 | 516 | 551 | 586 | 17 | 621 | 656 | 691 | 726 | 761 | 796 |
| 432 | 468 | 504 | 540 | 576 | 612 | 18 | 648 | 684 | 720 | 756 | 792 | 828 |
| 453 | 490 | 527 | 564 | 601 | 638 | 19 | 675 | 712 | 749 | 786 | 823 | 860 |
| 474 | 512 | 550 | 588 | 626 | 664 | 20 | 702 | 740 | 778 | 816 | 854 | 892 |
| 495 | 534 | 573 | 612 | 651 | 690 | 21 | 729 | 768 | 807 | 846 | 885 | 924 |
| 516 | 556 | 596 | 636 | 676 | 716 | 22 | 756 | 796 | 836 | 876 | 916 | 956 |
| 537 | 578 | 619 | 660 | 701 | 742 | 23 | 783 | 824 | 865 | 906 | 947 | 988 |
| 558 | 600 | 642 | 684 | 726 | 768 | 24 | 810 | 852 | 894 | 936 | 978 | 1020 |
| 579 | 622 | 665 | 708 | 751 | 794 | 25 | 837 | 880 | 923 | 966 | 1009 | 1052 |
| 600 | 644 | 688 | 732 | 776 | 820 | 26 | 864 | 908 | 952 | 996 | 1040 | 1084 |
| 621 | 666 | 711 | 756 | 801 | 846 | 27 | 891 | 936 | 981 | 1026 | 1071 | 1116 |
| 642 | 688 | 734 | 780 | 826 | 872 | 28 | 918 | 964 | 1010 | 1056 | 1102 | 1148 |
| 663 | 710 | 757 | 804 | 851 | 898 | 29 | 945 | 992 | 1039 | 1086 | 1133 | 1180 |
| 684 | 732 | 780 | 828 | 876 | 924 | 30 | 972 | 1020 | 1068 | 1116 | 1164 | 1212 |

| 15 | 16 | 17 | 18 | 19 | 20 | Feet Long | 21 | 22 | 23 | 24 | 25 | 26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AREA SQUARE FEET | | | | | | | AREA SQUARE FEET | | | | | |
| 369 | 390 | 411 | 432 | 453 | 474 | 3 | 495 | 516 | 537 | 558 | 579 | 600 |
| 02 | 424 | 446 | 468 | 490 | 512 | 4 | 534 | 556 | 578 | 600 | 622 | 644 |
| 435 | 458 | 481 | 504 | 527 | 550 | 5 | 573 | 596 | 619 | 642 | 665 | 688 |
| 468 | 492 | 516 | 540 | 564 | 588 | 6 | 612 | 636 | 660 | 684 | 708 | 732 |
| 501 | 526 | 551 | 576 | 601 | 626 | 7 | 651 | 676 | 701 | 726 | 751 | 776 |
| 534 | 560 | 586 | 612 | 638 | 664 | 8 | 690 | 716 | 742 | 768 | 794 | 820 |
| 567 | 594 | 621 | 648 | 675 | 702 | 9 | 729 | 756 | 783 | 810 | 837 | 864 |
| 600 | 628 | 656 | 684 | 712 | 740 | 10 | 768 | 796 | 824 | 852 | 880 | 908 |
| 633 | 662 | 691 | 720 | 749 | 778 | 11 | 807 | 836 | 865 | 894 | 923 | 952 |
| 666 | 696 | 726 | 756 | 786 | 816 | 12 | 846 | 876 | 906 | 936 | 966 | 996 |
| 699 | 730 | 761 | 792 | 823 | 854 | 13 | 885 | 916 | 947 | 978 | 1009 | 1040 |
| 732 | 764 | 796 | 828 | 860 | 892 | 14 | 924 | 956 | 988 | 1020 | 1052 | 1084 |
| 765 | 798 | 831 | 864 | 897 | 930 | 15 | 963 | 996 | 1029 | 1062 | 1095 | 1128 |
| 798 | 832 | 866 | 900 | 934 | 968 | 16 | 1002 | 1036 | 1070 | 1104 | 1138 | 1172 |
| 831 | 866 | 901 | 936 | 971 | 1006 | 17 | 1041 | 1076 | 1111 | 1146 | 1181 | 1216 |
| 864 | 900 | 936 | 972 | 1008 | 1044 | 18 | 1080 | 1116 | 1152 | 1188 | 1224 | 1260 |
| 897 | 934 | 971 | 1008 | 1045 | 1082 | 19 | 1119 | 1156 | 1193 | 1230 | 1267 | 1304 |
| 930 | 968 | 1006 | 1044 | 1082 | 1120 | 20 | 1158 | 1196 | 1234 | 1272 | 1301 | 1348 |
| 963 | 1002 | 1041 | 1080 | 1119 | 1158 | 21 | 1197 | 1236 | 1275 | 1314 | 1353 | 1392 |
| 996 | 1036 | 1076 | 1116 | 1156 | 1196 | 22 | 1236 | 1276 | 1316 | 1356 | 1396 | 1436 |
| 1029 | 1070 | 1111 | 1152 | 1193 | 1234 | 23 | 1275 | 1316 | 1357 | 1398 | 1439 | 1480 |
| 1062 | 1104 | 1146 | 1188 | 1230 | 1272 | 24 | 1314 | 1356 | 1398 | 1440 | 1482 | 1524 |
| 1095 | 1138 | 1181 | 1224 | 1267 | 1310 | 25 | 1353 | 1396 | 1439 | 1482 | 1525 | 1568 |
| 1128 | 1172 | 1216 | 1260 | 1304 | 1348 | 26 | 1392 | 1436 | 1480 | 1524 | 1568 | 1612 |
| 1161 | 1206 | 1251 | 1296 | 1341 | 1386 | 27 | 1431 | 1476 | 1521 | 1566 | 1611 | 1656 |
| 1194 | 1240 | 1286 | 1332 | 1378 | 1424 | 28 | 1470 | 1516 | 1562 | 1608 | 1654 | 1700 |
| 1227 | 1274 | 1321 | 1368 | 1415 | 1462 | 29 | 1509 | 1556 | 1603 | 1650 | 1697 | 1744 |
| 1260 | 1308 | 1356 | 1404 | 1452 | 1500 | 30 | 1548 | 1596 | 1644 | 1692 | 1740 | 1788 |

Explanation—For the total square feet in a room 15 feet wide and 20 feet long, ceiling 9 feet high, run down the 15-ft. column and opposite 20 read 930 square feet.

# Square Feet in the Ceiling and Four Walls of Rooms

## 10-Foot Ceilings

| FEET WIDE | | | | | | | FEET WIDE | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 4 | 5 | 6 | 7 | 8 | Feet Long | 9 | 10 | 11 | 12 | 13 | 14 |
| AREA SQUARE FEET | | | | | | | AREA SQUARE FEET | | | | | |
| 129 | 152 | 175 | 198 | 221 | 244 | 3 | 267 | 290 | 313 | 336 | 359 | 382 |
| 152 | 176 | 200 | 224 | 248 | 272 | 4 | 296 | 320 | 344 | 368 | 392 | 416 |
| 175 | 200 | 225 | 250 | 275 | 300 | 5 | 325 | 350 | 375 | 400 | 425 | 450 |
| 198 | 224 | 250 | 276 | 302 | 328 | 6 | 354 | 380 | 406 | 432 | 458 | 484 |
| 221 | 248 | 275 | 302 | 329 | 356 | 7 | 383 | 410 | 437 | 464 | 491 | 518 |
| 244 | 272 | 300 | 328 | 356 | 384 | 8 | 412 | 440 | 468 | 496 | 524 | 552 |
| 267 | 296 | 325 | 354 | 383 | 412 | 9 | 441 | 470 | 499 | 528 | 557 | 586 |
| 290 | 320 | 350 | 380 | 410 | 440 | 10 | 470 | 500 | 530 | 560 | 590 | 620 |
| 313 | 344 | 375 | 406 | 437 | 468 | 11 | 499 | 530 | 561 | 592 | 623 | 654 |
| 336 | 368 | 400 | 432 | 464 | 496 | 12 | 528 | 560 | 592 | 624 | 656 | 688 |
| 359 | 392 | 425 | 458 | 491 | 524 | 13 | 557 | 590 | 623 | 656 | 689 | 722 |
| 382 | 416 | 450 | 484 | 518 | 552 | 14 | 586 | 620 | 654 | 688 | 722 | 756 |
| 405 | 440 | 475 | 510 | 545 | 580 | 15 | 615 | 650 | 685 | 720 | 755 | 790 |
| 428 | 464 | 500 | 536 | 572 | 608 | 16 | 644 | 680 | 716 | 752 | 788 | 824 |
| 451 | 488 | 525 | 562 | 599 | 636 | 17 | 673 | 710 | 747 | 784 | 821 | 858 |
| 474 | 512 | 550 | 588 | 626 | 664 | 18 | 702 | 740 | 778 | 816 | 854 | 892 |
| 497 | 536 | 575 | 614 | 653 | 692 | 19 | 731 | 770 | 809 | 848 | 887 | 926 |
| 520 | 560 | 600 | 640 | 680 | 720 | 20 | 760 | 800 | 840 | 880 | 920 | 960 |
| 543 | 584 | 625 | 666 | 707 | 748 | 21 | 789 | 830 | 871 | 912 | 953 | 994 |
| 566 | 608 | 650 | 692 | 734 | 776 | 22 | 818 | 860 | 902 | 944 | 986 | 1028 |
| 589 | 632 | 675 | 718 | 761 | 804 | 23 | 847 | 890 | 933 | 976 | 1019 | 1062 |
| 612 | 656 | 700 | 744 | 788 | 832 | 24 | 876 | 920 | 964 | 1008 | 1052 | 1090 |
| 635 | 680 | 725 | 770 | 815 | 860 | 25 | 905 | 950 | 995 | 1040 | 1085 | 1130 |
| 658 | 704 | 750 | 796 | 842 | 888 | 26 | 934 | 980 | 1026 | 1072 | 1118 | 1164 |
| 681 | 728 | 775 | 822 | 869 | 916 | 27 | 963 | 1010 | 1057 | 1104 | 1151 | 1198 |
| 704 | 752 | 800 | 848 | 896 | 944 | 28 | 992 | 1040 | 1088 | 1136 | 1184 | 1232 |
| 727 | 776 | 825 | 874 | 923 | 972 | 29 | 1021 | 1070 | 1119 | 1168 | 1217 | 1266 |
| 750 | 800 | 850 | 900 | 950 | 1000 | 30 | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 |

| 15 | 16 | 17 | 18 | 19 | 20 | Feet Long | 21 | 22 | 23 | 24 | 25 | 26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AREA SQUARE FEET | | | | | | | AREA SQUARE FEET | | | | | |
| 405 | 428 | 451 | 474 | 497 | 520 | 3 | 543 | 566 | 589 | 612 | 635 | 658 |
| 440 | 464 | 488 | 512 | 536 | 560 | 4 | 584 | 608 | 632 | 656 | 680 | 704 |
| 475 | 500 | 525 | 550 | 575 | 600 | 5 | 625 | 650 | 675 | 700 | 725 | 750 |
| 510 | 536 | 562 | 588 | 614 | 640 | 6 | 666 | 692 | 718 | 744 | 770 | 796 |
| 545 | 572 | 599 | 626 | 653 | 680 | 7 | 707 | 734 | 761 | 788 | 815 | 842 |
| 580 | 608 | 636 | 664 | 692 | 720 | 8 | 748 | 776 | 804 | 832 | 860 | 888 |
| 615 | 644 | 673 | 702 | 731 | 760 | 9 | 789 | 818 | 847 | 876 | 905 | 934 |
| 650 | 680 | 710 | 740 | 770 | 800 | 10 | 830 | 860 | 890 | 920 | 950 | 980 |
| 685 | 716 | 747 | 778 | 809 | 840 | 11 | 871 | 902 | 933 | 964 | 995 | 1026 |
| 720 | 752 | 784 | 816 | 848 | 880 | 12 | 912 | 944 | 976 | 1008 | 1040 | 1072 |
| 755 | 788 | 821 | 854 | 887 | 920 | 13 | 953 | 986 | 1019 | 1052 | 1085 | 1118 |
| 790 | 824 | 858 | 892 | 926 | 960 | 14 | 994 | 1028 | 1062 | 1096 | 1130 | 1164 |
| 825 | 860 | 895 | 930 | 965 | 1000 | 15 | 1035 | 1070 | 1105 | 1140 | 1175 | 1210 |
| 860 | 896 | 932 | 968 | 1004 | 1040 | 16 | 1076 | 1112 | 1148 | 1184 | 1220 | 1256 |
| 895 | 932 | 969 | 1006 | 1043 | 1080 | 17 | 1117 | 1154 | 1191 | 1228 | 1265 | 1302 |
| 930 | 968 | 1006 | 1044 | 1082 | 1120 | 18 | 1158 | 1196 | 1234 | 1272 | 1310 | 1348 |
| 965 | 1004 | 1043 | 1082 | 1121 | 1160 | 19 | 1199 | 1238 | 1277 | 1316 | 1355 | 1394 |
| 1000 | 1040 | 1080 | 1120 | 1160 | 1200 | 20 | 1240 | 1280 | 1320 | 1360 | 1400 | 1440 |
| 1035 | 1076 | 1117 | 1158 | 1199 | 1240 | 21 | 1281 | 1322 | 1363 | 1404 | 1445 | 1486 |
| 1070 | 1112 | 1154 | 1196 | 1238 | 1280 | 22 | 1322 | 1364 | 1406 | 1448 | 1490 | 1532 |
| 1105 | 1148 | 1191 | 1234 | 1277 | 1320 | 23 | 1363 | 1406 | 1449 | 1492 | 1535 | 1578 |
| 1140 | 1184 | 1228 | 1272 | 1316 | 1360 | 24 | 1404 | 1448 | 1492 | 1536 | 1580 | 1624 |
| 1175 | 1220 | 1265 | 1310 | 1355 | 1400 | 25 | 1445 | 1490 | 1535 | 1580 | 1625 | 1670 |
| 1210 | 1256 | 1302 | 1348 | 1394 | 1440 | 26 | 1486 | 1532 | 1578 | 1624 | 1670 | 1716 |
| 1245 | 1292 | 1339 | 1386 | 1433 | 1480 | 27 | 1527 | 1574 | 1621 | 1668 | 1715 | 1762 |
| 1280 | 1328 | 1376 | 1424 | 1472 | 1520 | 28 | 1568 | 1616 | 1664 | 1712 | 1760 | 1808 |
| 1315 | 1364 | 1413 | 1462 | 1511 | 1560 | 29 | 1609 | 1658 | 1707 | 1756 | 1805 | 1854 |
| 1350 | 1400 | 1450 | 1500 | 1550 | 1600 | 30 | 1650 | 1700 | 1750 | 1800 | 1850 | 1900 |

Explanation—For the total square feet in a room 17 feet wide and 23 feet long, ceiling 10 feet high, run down the 17-ft. column and opposite 23 read 1191 square feet.

# Square Feet in the Ceiling and Four Walls of Rooms

## 11-Foot Ceilings

| FEET WIDE | | | | | | | FEET WIDE | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 4 | 5 | 6 | 7 | 8 | Feet Long | 9 | 10 | 11 | 12 | 13 | 14 |
| AREA SQUARE FEET | | | | | | | AREA SQUARE FEET | | | | | |
| 141 | 166 | 191 | 216 | 241 | 266 | 3 | 291 | 316 | 341 | 366 | 391 | 416 |
| 166 | 192 | 218 | 244 | 270 | 296 | 4 | 322 | 348 | 374 | 400 | 426 | 452 |
| 191 | 218 | 245 | 272 | 299 | 326 | 5 | 353 | 380 | 407 | 434 | 461 | 488 |
| 216 | 244 | 272 | 300 | 328 | 356 | 6 | 384 | 412 | 440 | 468 | 496 | 524 |
| 241 | 270 | 299 | 328 | 357 | 386 | 7 | 415 | 444 | 473 | 502 | 531 | 560 |
| 266 | 296 | 326 | 356 | 386 | 416 | 8 | 446 | 476 | 506 | 536 | 566 | 596 |
| 291 | 322 | 353 | 384 | 415 | 446 | 9 | 477 | 508 | 539 | 570 | 601 | 632 |
| 316 | 348 | 380 | 412 | 444 | 476 | 10 | 508 | 540 | 572 | 604 | 636 | 668 |
| 341 | 374 | 407 | 440 | 473 | 506 | 11 | 539 | 572 | 605 | 638 | 671 | 704 |
| 366 | 400 | 434 | 468 | 502 | 536 | 12 | 570 | 604 | 638 | 672 | 706 | 740 |
| 391 | 426 | 461 | 496 | 531 | 566 | 13 | 601 | 636 | 671 | 706 | 741 | 776 |
| 416 | 452 | 488 | 524 | 560 | 596 | 14 | 632 | 668 | 705 | 740 | 776 | 812 |
| 441 | 478 | 515 | 552 | 589 | 626 | 15 | 663 | 700 | 737 | 774 | 811 | 848 |
| 466 | 504 | 542 | 580 | 618 | 656 | 16 | 694 | 732 | 770 | 808 | 846 | 884 |
| 491 | 530 | 569 | 608 | 647 | 686 | 17 | 725 | 764 | 803 | 842 | 881 | 920 |
| 516 | 556 | 596 | 636 | 676 | 716 | 18 | 756 | 796 | 836 | 876 | 916 | 956 |
| 541 | 582 | 623 | 664 | 705 | 746 | 19 | 787 | 828 | 869 | 910 | 951 | 992 |
| 566 | 608 | 650 | 692 | 734 | 776 | 20 | 818 | 860 | 902 | 944 | 986 | 1028 |
| 591 | 634 | 677 | 720 | 763 | 806 | 21 | 849 | 892 | 935 | 978 | 1021 | 1064 |
| 616 | 660 | 704 | 748 | 792 | 836 | 22 | 880 | 924 | 968 | 1012 | 1056 | 1100 |
| 641 | 686 | 731 | 776 | 821 | 866 | 23 | 911 | 956 | 1001 | 1046 | 1091 | 1136 |
| 666 | 712 | 758 | 804 | 850 | 896 | 24 | 942 | 988 | 1034 | 1080 | 1126 | 1172 |
| 691 | 738 | 785 | 832 | 879 | 926 | 25 | 973 | 1020 | 1067 | 1114 | 1161 | 1208 |
| 716 | 764 | 812 | 860 | 908 | 956 | 26 | 1004 | 1052 | 1100 | 1148 | 1196 | 1244 |
| 741 | 790 | 839 | 888 | 937 | 986 | 27 | 1035 | 1084 | 1133 | 1182 | 1231 | 1280 |
| 766 | 816 | 866 | 916 | 966 | 1016 | 28 | 1066 | 1116 | 1166 | 1216 | 1266 | 1316 |
| 791 | 842 | 893 | 944 | 995 | 1046 | 29 | 1097 | 1148 | 1199 | 1250 | 1301 | 1352 |
| 816 | 868 | 920 | 972 | 1024 | 1076 | 30 | 1128 | 1180 | 1232 | 1284 | 1336 | 1388 |

| 15 | 16 | 17 | 18 | 19 | 20 | Feet Long | 21 | 22 | 23 | 24 | 25 | 26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AREA SQUARE FEET | | | | | | | AREA SQUARE FEET | | | | | |
| 441 | 466 | 491 | 516 | 541 | 566 | 3 | 591 | 616 | 641 | 666 | 691 | 716 |
| 478 | 504 | 530 | 556 | 582 | 608 | 4 | 634 | 660 | 686 | 712 | 738 | 764 |
| 515 | 542 | 569 | 596 | 623 | 650 | 5 | 677 | 704 | 731 | 758 | 785 | 812 |
| 552 | 580 | 608 | 636 | 664 | 692 | 6 | 720 | 748 | 776 | 804 | 832 | 860 |
| 589 | 618 | 647 | 676 | 705 | 734 | 7 | 763 | 792 | 821 | 850 | 879 | 908 |
| 626 | 656 | 686 | 716 | 746 | 776 | 8 | 806 | 836 | 866 | 896 | 926 | 956 |
| 663 | 694 | 725 | 756 | 787 | 818 | 9 | 849 | 880 | 911 | 942 | 973 | 1004 |
| 700 | 732 | 764 | 796 | 828 | 860 | 10 | 892 | 924 | 956 | 988 | 1020 | 1052 |
| 737 | 770 | 803 | 836 | 869 | 902 | 11 | 935 | 968 | 1001 | 1034 | 1067 | 1100 |
| 774 | 808 | 842 | 876 | 910 | 944 | 12 | 978 | 1012 | 1046 | 1080 | 1114 | 1148 |
| 811 | 846 | 881 | 916 | 951 | 986 | 13 | 1021 | 1056 | 1091 | 1126 | 1161 | 1196 |
| 848 | 884 | 920 | 956 | 992 | 1028 | 14 | 1064 | 1100 | 1136 | 1172 | 1208 | 1244 |
| 885 | 922 | 959 | 996 | 1033 | 1070 | 15 | 1107 | 1144 | 1181 | 1218 | 1255 | 1292 |
| 922 | 960 | 998 | 1036 | 1074 | 1112 | 16 | 1150 | 1188 | 1226 | 1264 | 1302 | 1340 |
| 959 | 998 | 1037 | 1076 | 1115 | 1154 | 17 | 1193 | 1232 | 1271 | 1310 | 1349 | 1388 |
| 996 | 1036 | 1076 | 1116 | 1156 | 1196 | 18 | 1236 | 1276 | 1316 | 1356 | 1396 | 1436 |
| 1033 | 1074 | 1115 | 1156 | 1197 | 1238 | 19 | 1279 | 1320 | 1361 | 1402 | 1443 | 1484 |
| 1070 | 1112 | 1154 | 1196 | 1238 | 1280 | 20 | 1322 | 1364 | 1406 | 1448 | 1490 | 1532 |
| 1107 | 1150 | 1193 | 1236 | 1279 | 1322 | 21 | 1365 | 1408 | 1451 | 1494 | 1537 | 1580 |
| 1144 | 1188 | 1232 | 1276 | 1320 | 1364 | 22 | 1408 | 1452 | 1496 | 1540 | 1584 | 1628 |
| 1181 | 1226 | 1271 | 1316 | 1361 | 1406 | 23 | 1451 | 1496 | 1541 | 1586 | 1631 | 1676 |
| 1218 | 1264 | 1310 | 1356 | 1402 | 1448 | 24 | 1494 | 1540 | 1586 | 1632 | 1678 | 1724 |
| 1255 | 1302 | 1349 | 1396 | 1443 | 1490 | 25 | 1537 | 1584 | 1631 | 1678 | 1725 | 1772 |
| 1292 | 1340 | 1388 | 1436 | 1484 | 1532 | 26 | 1580 | 1628 | 1676 | 1724 | 1772 | 1820 |
| 1329 | 1378 | 1427 | 1476 | 1525 | 1574 | 27 | 1623 | 1672 | 1721 | 1770 | 1819 | 1868 |
| 1366 | 1416 | 1466 | 1516 | 1566 | 1616 | 28 | 1666 | 1716 | 1766 | 1816 | 1866 | 1916 |
| 1403 | 1454 | 1505 | 1556 | 1607 | 1658 | 29 | 1709 | 1760 | 1811 | 1862 | 1913 | 1964 |
| 1440 | 1492 | 1544 | 1596 | 1648 | 1700 | 30 | 1752 | 1804 | 1856 | 1908 | 1960 | 2012 |

Explanation—For the total square feet in a room 23 feet wide and 27 feet long, ceiling 11 feet high, run down the 23-ft. column and opposite 27 read 1721 square feet.

# Square Feet in the Ceiling and Four Walls of Rooms

## 12-Foot Ceilings

| FEET WIDE | | | | | | | FEET WIDE | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 4 | 5 | 6 | 7 | 8 | Feet Long | 9 | 10 | 11 | 12 | 13 | 14 |
| AREA SQUARE FEET | | | | | | | AREA SQUARE FEET | | | | | |
| 153 | 180 | 207 | 234 | 261 | 288 | 3 | 315 | 342 | 369 | 396 | 423 | 450 |
| 180 | 208 | 236 | 264 | 292 | 320 | 4 | 348 | 376 | 404 | 432 | 460 | 488 |
| 207 | 236 | 265 | 294 | 323 | 352 | 5 | 381 | 410 | 439 | 468 | 497 | 526 |
| 234 | 264 | 294 | 324 | 354 | 384 | 6 | 414 | 444 | 474 | 504 | 534 | 564 |
| 261 | 292 | 323 | 354 | 385 | 416 | 7 | 447 | 478 | 509 | 540 | 571 | 602 |
| 288 | 320 | 352 | 384 | 416 | 448 | 8 | 480 | 512 | 544 | 576 | 608 | 640 |
| 315 | 348 | 381 | 414 | 447 | 480 | 9 | 513 | 546 | 579 | 612 | 645 | 678 |
| 342 | 376 | 410 | 444 | 478 | 512 | 10 | 546 | 580 | 614 | 648 | 682 | 716 |
| 369 | 404 | 439 | 474 | 509 | 544 | 11 | 579 | 614 | 649 | 684 | 719 | 754 |
| 396 | 432 | 468 | 504 | 540 | 576 | 12 | 612 | 648 | 684 | 720 | 756 | 792 |
| 423 | 460 | 497 | 534 | 571 | 608 | 13 | 645 | 682 | 719 | 756 | 793 | 830 |
| 450 | 488 | 526 | 564 | 602 | 640 | 14 | 678 | 716 | 754 | 792 | 830 | 868 |
| 477 | 516 | 555 | 594 | 633 | 672 | 15 | 711 | 750 | 789 | 828 | 867 | 906 |
| 504 | 544 | 584 | 624 | 664 | 704 | 16 | 744 | 784 | 824 | 864 | 904 | 944 |
| 531 | 572 | 613 | 654 | 695 | 736 | 17 | 777 | 818 | 859 | 900 | 941 | 982 |
| 558 | 600 | 642 | 684 | 726 | 768 | 18 | 810 | 852 | 894 | 936 | 978 | 1020 |
| 585 | 628 | 671 | 714 | 757 | 800 | 19 | 843 | 886 | 929 | 972 | 1015 | 1058 |
| 612 | 656 | 700 | 744 | 788 | 832 | 20 | 876 | 920 | 964 | 1008 | 1052 | 1096 |
| 639 | 684 | 729 | 774 | 819 | 864 | 21 | 909 | 954 | 999 | 1044 | 1089 | 1134 |
| 666 | 712 | 758 | 804 | 850 | 896 | 22 | 942 | 988 | 1034 | 1080 | 1126 | 1172 |
| 693 | 740 | 787 | 834 | 881 | 928 | 23 | 975 | 1022 | 1069 | 1116 | 1163 | 1210 |
| 720 | 768 | 816 | 864 | 912 | 960 | 24 | 1008 | 1056 | 1104 | 1152 | 1200 | 1248 |
| 747 | 796 | 845 | 894 | 943 | 992 | 25 | 1041 | 1090 | 1139 | 1188 | 1237 | 1286 |
| 774 | 824 | 874 | 924 | 974 | 1024 | 26 | 1074 | 1124 | 1174 | 1224 | 1274 | 1324 |
| 801 | 852 | 903 | 954 | 1005 | 1056 | 27 | 1107 | 1158 | 1209 | 1260 | 1311 | 1362 |
| 828 | 880 | 932 | 984 | 1036 | 1088 | 28 | 1140 | 1192 | 1244 | 1296 | 1348 | 1400 |
| 855 | 908 | 961 | 1014 | 1067 | 1120 | 29 | 1173 | 1226 | 1279 | 1332 | 1385 | 1438 |
| 882 | 936 | 990 | 1044 | 1098 | 1152 | 30 | 1206 | 1260 | 1314 | 1368 | 1422 | 1476 |

| 15 | 16 | 17 | 18 | 19 | 20 | Feet Long | 21 | 22 | 23 | 24 | 25 | 26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AREA SQUARE FEET | | | | | | | AREA SQUARE FEET | | | | | |
| 477 | 504 | 531 | 558 | 585 | 612 | 3 | 639 | 666 | 693 | 720 | 747 | 774 |
| 516 | 544 | 572 | 600 | 628 | 656 | 4 | 684 | 712 | 740 | 768 | 796 | 824 |
| 555 | 584 | 613 | 642 | 671 | 700 | 5 | 729 | 758 | 787 | 816 | 845 | 874 |
| 594 | 624 | 654 | 684 | 714 | 744 | 6 | 774 | 804 | 834 | 864 | 894 | 924 |
| 633 | 664 | 695 | 726 | 757 | 788 | 7 | 819 | 850 | 881 | 912 | 943 | 974 |
| 672 | 704 | 736 | 768 | 800 | 832 | 8 | 864 | 896 | 928 | 960 | 992 | 1024 |
| 711 | 744 | 777 | 810 | 843 | 876 | 9 | 909 | 942 | 975 | 1008 | 1041 | 1074 |
| 750 | 784 | 818 | 852 | 886 | 920 | 10 | 954 | 988 | 1022 | 1056 | 1090 | 1124 |
| 789 | 824 | 859 | 894 | 929 | 964 | 11 | 999 | 1034 | 1069 | 1104 | 1139 | 1174 |
| 828 | 864 | 900 | 936 | 972 | 1008 | 12 | 1044 | 1080 | 1116 | 1152 | 1188 | 1224 |
| 867 | 904 | 941 | 978 | 1015 | 1052 | 13 | 1089 | 1126 | 1163 | 1200 | 1237 | 1274 |
| 906 | 944 | 982 | 1020 | 1058 | 1096 | 14 | 1134 | 1172 | 1210 | 1248 | 1286 | 1324 |
| 945 | 984 | 1023 | 1062 | 1101 | 1140 | 15 | 1179 | 1218 | 1257 | 1296 | 1335 | 1374 |
| 984 | 1024 | 1064 | 1104 | 1144 | 1184 | 16 | 1224 | 1264 | 1304 | 1344 | 1384 | 1424 |
| 1023 | 1064 | 1105 | 1146 | 1187 | 1228 | 17 | 1269 | 1310 | 1351 | 1392 | 1433 | 1474 |
| 1062 | 1104 | 1146 | 1188 | 1230 | 1272 | 18 | 1314 | 1356 | 1398 | 1440 | 1482 | 1524 |
| 1101 | 1144 | 1187 | 1230 | 1273 | 1316 | 19 | 1359 | 1402 | 1445 | 1488 | 1531 | 1574 |
| 1140 | 1184 | 1228 | 1272 | 1316 | 1360 | 20 | 1404 | 1448 | 1492 | 1536 | 1580 | 1624 |
| 1179 | 1224 | 1269 | 1314 | 1359 | 1404 | 21 | 1449 | 1494 | 1539 | 1584 | 1629 | 1674 |
| 1218 | 1264 | 1310 | 1356 | 1402 | 1448 | 22 | 1494 | 1540 | 1586 | 1632 | 1678 | 1724 |
| 1257 | 1304 | 1351 | 1398 | 1445 | 1492 | 23 | 1539 | 1586 | 1633 | 1680 | 1727 | 1774 |
| 1296 | 1344 | 1392 | 1440 | 1488 | 1536 | 24 | 1584 | 1632 | 1680 | 1728 | 1776 | 1824 |
| 1335 | 1384 | 1433 | 1482 | 1531 | 1580 | 25 | 1629 | 1678 | 1727 | 1776 | 1825 | 1874 |
| 1374 | 1424 | 1474 | 1524 | 1574 | 1624 | 26 | 1674 | 1724 | 1774 | 1824 | 1874 | 1924 |
| 1413 | 1464 | 1515 | 1566 | 1617 | 1668 | 27 | 1719 | 1770 | 1821 | 1872 | 1923 | 1974 |
| 1452 | 1504 | 1556 | 1608 | 1660 | 1712 | 28 | 1764 | 1816 | 1868 | 1920 | 1972 | 2024 |
| 1491 | 1544 | 1597 | 1650 | 1703 | 1756 | 29 | 1809 | 1862 | 1915 | 1968 | 2021 | 2074 |
| 1530 | 1584 | 1638 | 1692 | 1746 | 1800 | 30 | 1854 | 1908 | 1962 | 2016 | 2070 | 2124 |

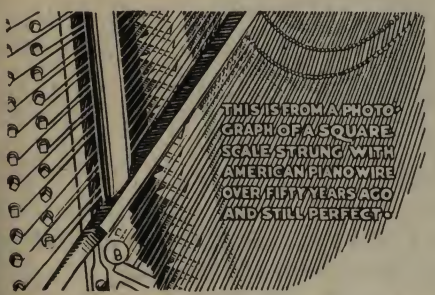
Explanation—For the total square feet in a room 25 feet wide and 29 feet long, ceiling 12 feet high, run down the 25-ft. column and opposite 29 read 2021 square feet.


Every coil examined and labeled under the direction of the underwriters' laboratories. Ignition wire for autos, motor boats, and aeroplanes.

*Send for Booklet fully describing.*

**American Steel & Wire Company**

## American Piano Wire




**"Perfected," "Crown"**

The highest attainment of acoustic excellence.

Made by

**American Steel & Wire Company**

## Concrete Roads must be Reinforced

IT is demonstrated beyond doubt that to make concrete roads proof against heavy motor traffic, weather and time, a fabric of steel must be incorporated in the concrete.

*Several great States have so ruled*

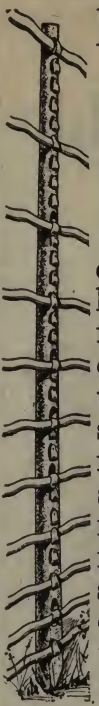
**American Steel & Wire Company's**

## Concrete Reinforcement

*fulfills every engineering requirement*

*Send for our book on road building*

## American Steel Fence Posts



**Cheaper than Wood and More Durable**

**Made by American Steel & Wire Company**

INDESTRUCTIBLE, heavily galvanized inside and out. Quickly and easily driven or set, least cost, labor saving, easiest to erect fence. Fireproof, can burn off fence line. Frostproof, will not lift. Strong as steel, will hold against any fence use. Easily moved to shift fence line. Millions in use and rapidly increasing. Have been in service since 1898, in every section of the United States, and the oldest posts are today as good as when set.

**CHEMICALLY PURE**

## SULPHATE OF IRON

*For protection against HOG CHOLERA, WORMS and other diseases of swine. Useful in certain DISEASES OF CATTLE and POULTRY and in the destruction of TYPHOID FLIES*

When mixed with other medicinal ingredients, as per standard formulas, Sulphate of Iron becomes a standard remedy for the prevention of animal diseases. Put up in cartons and sacks for sale everywhere.

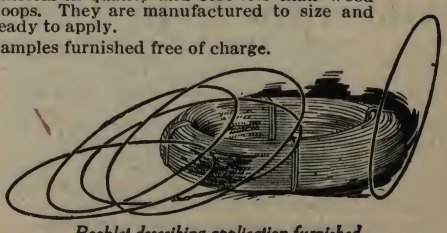
*Send for Descriptive Literature*

**American Steel & Wire Company**

## American Wire Hoops

Our Wire Hoops make strong packages, are uniform in quality and cost less than wood hoops. They are manufactured to size and ready to apply.

Samples furnished free of charge.



*Booklet describing application furnished.*

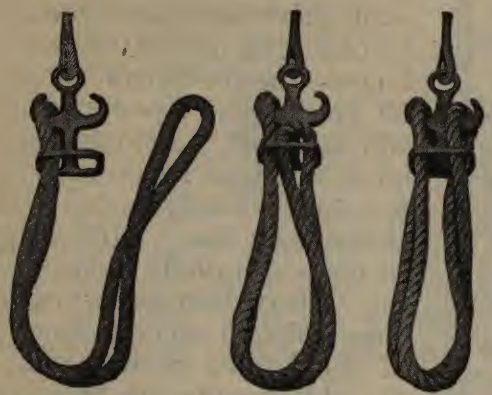
**American Steel & Wire Company**

American Steel & Wire Company's

# Auto Towing Cable

FOR PASSENGER CAR SERVICE

Patented



Manila Loop attached. Always remains in Hook. Can be detached when loop wears out.

Other end being inserted. Large ring provided to easily insert loop, although water and sand soaked.

End of Loop hooked—ready for towing. Quadruple strength—firmly attached. No loosening and dropping the tow.

## Flat Wire, Flat Cold Rolled Steel

IN all widths up to 16 inches, for shaping into all forms of manufacture in automatic machines or otherwise, such as butts, hinges, tubes, roller skates, keys, typewriter, sewing, adding machines, and automobile parts, cream separator discs, buttons, stove and show case trimmings, gun parts, wire chair rims, go-cart parts and any difficult or plain forming where flat steel of great ductility, strength, finish and uniformity are required.

*"Flat Wire Bulletin" mailed free*

**American Steel & Wire Company**

## American Bale Ties

THESE OLD AND TRIED ties have passed through years of refinement in manufacture and trial in actual use until they are now standard of the world. Much depends upon the strength and reliability of a bale tie. Heavy commercial loss results from the use of ties of unproven worth. No other form of wire calls for more care in manufacture, beginning with the earliest stages of steelmaking down to the finished tie—no other form of wire has to stand more strain and abuse. Bale tie wire MUST be made in the highest perfection possible—anything less invites heavy damage and loss.

*Complete Descriptive Catalogue sent free for the asking.*

**American Steel & Wire Company**

## Screw Stock, Cold Drawn Steel—

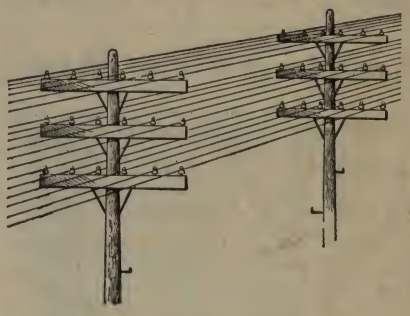
**Rounds**
**Squares**
**Hexagons**
**Special Shapes**

Free Cutting Screw Steel, Pump Rods, Roller Bearing Rods for all purposes.

*Catalogue furnished*

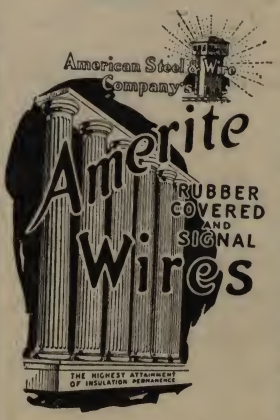
**American Steel & Wire Company**

## W. & M. Telephone Wire



POLE STEPS, electrical wires and cables of all kinds, bare and insulated.

**American Steel & Wire Company**




WE present these wires as the result of many years of exhaustive research and test under service conditions, assuring the greatest efficiency over the longest period of usage.

The specifications of this wire are adequate for the most extreme requirements of indoor use in high-class structures as well as for the most exacting outdoor exposure,

*Send for Booklet fully describing.*

**American Steel & Wire Company**

FOR elevators, dredges, lumbering, mining, oil-well drilling, suspension bridges, stump pulling, cranes, derricks, ships' rigging and every other form of wire rope use.

*Ask for Illustrated Catalogue.*

*Read about wire rope usage in its different requirements in American Wire Rope News. Gladly sent free to anyone upon request.*


**American Steel & Wire Company**

---

# Hollow Cable Clothes Lines

**also**
**Steel Clothes-line Posts**

*For Sale Everywhere.*
*Ask for them.*

**American Steel & Wire Company**

---

# Woven Wire Fences Steel Gates

**We make the celebrated Fences:**

| | |
|---|---|
| **American Fence** | **National Fence** |
| **Ellwood Fence** | **U. S. Fence** |
| **Royal Fence** | **Union Lock Fence** |
| **Anthony Fence** | **Banner Fence** |

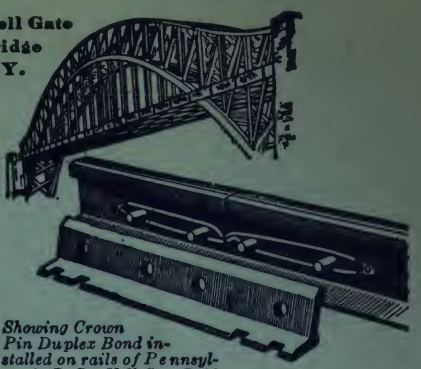
For Farm and every other form of enclosure. These fences are well and favorable known all over the world and are the most effective, substantial and enduring fences made. For sale by dealers everywhere.

Also American Steel Gates in all standard widths and varieties.

**American Steel & Wire Company**

4291

**Hell Gate Bridge N.Y.**



*Showing Crown Pin Duplex Bond installed on rails of Pennsylvania R. R., Hell Gate Bridge.*

## AMERICAN RAIL BONDS

**Crown United States, Twin Terminal, Soldered, Triplex, Arc Weld, Flame Weld**

*Illustrated rail bond catalogue furnished*

**American Steel & Wire Company**

---

**American Steel & Wire Company's Trenton-Bleichert System**

# Aerial Tramways

Every detail has been thoroughly worked out and we put into these constructions only material of the most approved and substantial kind including

## American Wire Rope

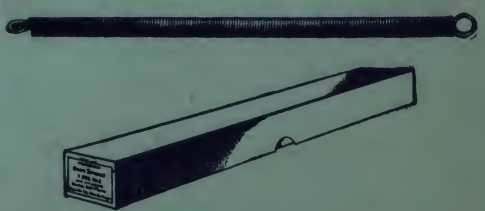
NO matter what the contour of the ground, we will construct a tramway that will transfer material in a bee line at minimum expense; and no grades are too steep to surmount; no rivers or valleys too wide to cross; and no grading, bridges or viaducts of any kind are required. There is practically no limit to the length of these tramways. We have one line carrying ore twenty-one miles.

*Send for Complete Descriptive Catalogue of Tramways in use.*

---

# Perfection Door Springs

**For Screen Doors**



The best steel is used in the manufacture of these springs, ensuring permanent resiliency and freedom from breakage. The spring is well adapted for screen doors or other doors. It is easily applied with simply two screw hooks, one in the door and one in the frame.

**American Steel & Wire Company**

Digitized by


ASSOCIATION
FOR
PRESERVATION
TECHNOLOGY,
INTERNATIONAL
www.apti.org

BUILDING
TECHNOLOGY
HERITAGE
LIBRARY

https://archive.org/details/buildingtechnologyheritagelibrary

From the collection of:

Alan O'Bright